Got Soy?

Why undeclared traces of soy could hurt consumers and your business.

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Got soy? Unfortunately the answer to this question is not as straightforward as you might think. The fact is that this food, filler, and allergen is creeping up in places you might not expect, from vitamin C supplements to a variety of food products such as chips, sandwiches, burritos, meats, and even cheese spreads.

For many people, soy provides numerous health benefits. However, to those allergic to it, even trace amounts of soy protein can cause adverse health reactions. The presence of other food allergens, such as peanuts, milk, and wheat, are commonly known to cause severe adverse reactions such as vomiting, hives, eczema, asthma, and even anaphylactic shock. So, too, can soy protein.

Despite these risks, soy flour, derived from ground soybeans, has become increasingly popular as a “filler,” added to “beef up” everything from fast-food meat to raw materials used in natural products. This cost-effective, readily available, and relatively flavorless and chemically inert ingredient is added to boost protein and moisture in food products, or to increase the dry weight of more expensive raw materials such as medicinal herbs. The presence of soy is not itself the risk; rather, the risk is that companies are not listing the presence of soy on their product labels and giving those allergic to soy fair warning.

In the first two months of 2011, FDA issued voluntary or mandatory recalls due to undeclared allergens to over 20 companies, representing many more individual products. More than 25% of those products were recalled due to the presence of undeclared soy. In fact, as I write this article, another legal alert announcing a soy recall has hit my e-mail in-box.

Having reliable procedures and methods to identify and detect soy in raw materials and finished products is imperative. Throughout the process of manufacturing a product, there are number of instances in which soy contamination or adulteration may occur. For instance, soy may be introduced at the supplier level, before a manufacturer has received a raw material. Alternative to deliberately adding soy to a finished product, soy may also be accidentally introduced during manufacturing due to cross-contamination. Although food and dietary supplement companies are required to perform identity tests on their ingredients, many chemical methods do not detect soy. Unless a protein or DNA test is performed, the presence of soy can often remain undetected, and even the most quality-conscious companies may be manufacturing products that contain trace or even significant amounts of soy.
DNA Testing
In a recent meeting with a major raw-material botanical supplier, I explained the merits of DNA testing, including its ability to detect unexpected adulterants such as soy. His response was surprising—that an ingredient like soy doesn’t hurt anyone, anyway. However, not only could soy potentially hurt allergic consumers, it is downright fraudulent for a supplier to add this inexpensive filler to more-costly raw materials, without disclosing that fact to consumers. Not surprisingly, DNA tests performed on a number of that person’s company’s powdered raw materials showed significant levels of soy, undeclared on the label.

Unfortunately, any company using undeclared soy is at risk of manufacturing an adulterated product. Therefore, performing an appropriate test to detect soy is crucial. These tests are relatively inexpensive and quick to do, and rely either on the direct detection of the allergenic proteins or the DNA that encodes them.

An advantage of DNA allergen detection is its sensitivity and ability to detect trace amounts of soy protein, even in processed materials and foodstuffs in which the protein may be degraded. DNA allergen testing is similar to genetic forensic or botanical identity testing and works by detecting the presence, and in some cases, the abundance of the genes that encode for specific allergenic proteins in the material. Using primers that specifically bind onto the soy protein genes, even trace amounts of soy may be detected in a complex mixture, such as a food or finished dietary supplement. Similar allergen tests may be used for any plant or animal species, including allergens from almonds to wheat.

In the past few months alone, a DNA-testing company identified undeclared soy in everything from botanical extracts, juices, raw materials, and finished products--and not just in trace amounts. For instance, in one product, upwards of 20% of the product’s total DNA originated from soy. And this is likely just the tip of the iceberg. Who knows where soy will unexpectedly show up next? Just be sure it’s not in your product.

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