



OHIO SOYBEANS PROVIDE INNOVATIVE SOLUTIONS



Innovative Solutions Lead to R&D 100 Awards

The Ohio Soybean Council (OSC) and the soybean checkoff are finding new ways to use and improve soybeans. OSC currently works with Battelle, a world-renowned research company based in Columbus, Ohio, to explore and develop new uses for soybeans. Much of this research and development has been nationally and internationally recognized.

Established by the editors of *R&D Magazine*, the R&D 100 Awards have been helping companies provide the important initial push a new product needs to compete successfully in the marketplace. The winning of an R&D 100 Award provides a mark of excellence known to industry, government and academia as proof that the product is one of the top 100 innovative ideas of the year.

- In 2002, the research and development of soy-based plasticizers, by OSC and Battelle, won an R&D 100 Award. The research was aimed toward the development of cost-effective, soybean oil-derived plasticizers for use in the processing of PVC resins. The goal was to meet the need for a cost-effective, non-toxic, environmentally friendly alternative to petroleum-derived plasticizers. The potential soybean consumption is 100 million bushels per year.
- In 2003, OSC and Battelle earned an R&D 100 award for their soy-based toner. This product was recently commercialized by Advanced Image Resources (AIR) and awarded the 2008 Presidential Green Chemistry Award by the Environmental Protection Agency. Soy-based toner can be used in printers, copiers and fax machines and is more environmentally friendly than the petroleum-based equivalent. The potential soybean consumption is 20 million bushels per year.
- In 2007, OSC and Battelle received an R&D 100 award for the development of soy-based polyols, which was developed to fully replace the petroleum-based equivalent and is made from low-cost glycerin from soybeans. It also has an absence of odor and color, low viscosities and it requires less energy to produce compared to polyols made from petroleum. Polyols are used in the production of various foams, coatings and adhesives. Due to increasing petroleum costs, alternative chemical feed stocks such as soybean oil may be a cost-effective replacement. The potential soybean consumption is 50 million bushels per year.
- In 2008, OSC and Battelle received an R&D 100 award for their soy-based powder coatings. These are used in a wide variety of commercial applications from appliances to farm equipment. The use of soy-based resins for powder coatings results in production at lower temperatures and superior coating capabilities. Soy-based coatings have shown their versatility in roof coatings, as well as wood and concrete stains. The potential soybean consumption is 40 million bushels per year.