

Did You Know?



A flake of Super Slurper absorbs nearly 2,000 times its own weight in moisture.

Super Slurper...it's not an ice-cold drink. It's one of ARS's all-time greatest scientific achievements. ARS researchers at what was then the Northern Regional Research Center in Peoria, IL—now the ARS **National**

Center for Agricultural Utilization Research—developed a novel wonder called “Super Slurper.” Super Slurper is a cornstarch-based material. Starch is a naturally abundant compound found in potatoes and grains like corn and wheat, and is a byproduct of the corn milling process. Although most of the products from corn milling go into food and feed, about 4.5 billion pounds of starch is produced annually, largely for non-food purposes.

ARS researchers developed the cornstarch material in pursuit of alternatives to petroleum-based commodities. During the oil shortage in the 1970s, petroleum prices were tremendously high. The commodity was in high demand, but extremely limited. Holding true to its problem-solving brand, ARS scientists set out to find agriculture-based alternatives to reduce the country's dependence on petroleum-based commodities.

The ARS research team conducted a series of experiments combining cornstarch with synthetic chemicals until they discovered the magic compound: a product so thirsty it could absorb hundreds of times its own weight in water. Someone called it “Super Slurper,” and the name stuck. Later improvements to the original technology led to technology that can hold nearly 2,000 times its own weight in water! In 1976, ARS filed for patent protection on the technology, which gave rise to a new starch-based industry. The original technology is the foundation in many of today's consumer products, including disposable diapers, feminine hygiene products, wound dressings, batteries, cold packs, car filters, talcum powder, and a host

of other products that require moisture absorption and retention. If you've ever held a baby, you know the importance of moisture absorption!

A more recent use of the technology is as a grass seed coating to help retain moisture and boost germination. Seeds coated with Super Slurper material require less watering. Homeowners can appreciate new “moisture lock” technology—that means less lawn care...more time to relax!



Components of Yellow Corn

Starch	61.0 %
Corn Oil	3.8 %
Protein	8.0 %
Fiber	11.2 %
Moisture	16.0 %

Average Yield Per Bushel

Starch	31.5 lbs.
Gluten Feed	12.5 lbs.
Gluten Meal	2.5 lbs.
Corn Oil	1.6 lbs.

Source: Chippewa Valley Ethanol Company

Please submit story ideas and national award items to Tara T. Weaver-Missick, tara.weavermissick@ars.usda.gov or call 301-504-1663.