

The Bottom Line on “Super Slurpers”

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A number of years ago, there was a push to find new non-food uses for agricultural products. It was felt that such developments would lead to value-addition that would enhance revenues from various agricultural commodities.

To me, one of the most interesting of these was the “Super Slurper”, developed by the Agricultural Research Service in the United States. It was a specially prepared starch derivative with a very interesting property which many of us may take for granted.

As its name implies, the “Super Slurper” is an incredibly efficient material for absorbing water and forming a gel. Initially, it was so good at its job, that one gram could absorb almost 650 grams of water. Even when subjected to pressure, it could still hold over 400 times its own weight of water. This means that just over one gram would still hold about half a litre of water when squeezed. Some recent variants can reportedly absorb an incredible 2,000 times their weight in water. With these unusual properties, it didn't take “Super Slurpers” long to find a broad range of applications.

Anyone who has had the pleasure of changing a baby's disposable diaper will have experienced one of “Super Slurper's” main uses first-hand. Cellulose fibres, which have a plant origin, can only absorb about forty times their weight of water. When any pressure is applied, most of this water is squeezed out leaving only about twice its weight of water retained by the cellulose. One doesn't really need a vivid imagination to figure out where the rest of the moisture will go if a baby happens to plunk down on his or her bottom in a soggy cellulose-filled diaper. By dispersing small granules or particles of “Super Slurper” throughout the diaper padding, this problem is virtually eliminated.

This is only the tip of the iceberg, however, when it comes to the benefits of this amazingly absorbent material. Seeds and plant roots can be coated with it in order to hold water close to the seeds as they germinate, or around the roots as the young seedlings begin to grow. Once in the soil, the seeds or small plants can be watered immediately and the coating will form a wet gel that will prevent the water from escaping into the surrounding soil. This is especially important in soils where water drains away quickly. “Super Slurper” coatings also help reduce the shock experienced during transplanting.

There are even medical applications of “Super Slurper” gels, such as the treatment of skin wounds where they prevent drying of skin tissue etc.

Filters have been developed for removing water from gasoline and diesel fuels. This was a particularly common problem associated with underground fuel storage tanks that can now be resolved relatively easily.

“Super Slurpers” are proving valuable in recovering library books and documents damaged by flooding. Sprinkling the granules on water-soaked pages can remove moisture much faster and more economically than traditional air-drying or freeze-drying techniques.

While there are already many applications for this remarkable material, it appears as if its uses will continue to expand into many more imaginative areas.



“Super Slurpers” contribute greatly to a baby’s comfort