



Links to Agriculture

## Super Slurper – The Soil Miracle



In 1976, Agricultural Research Scientists (ARS) in Beltsville, Maryland combined corn starch with a synthetic chemical and created a product so “thirsty” that it could absorb 300 times its weight in water. Someone called it “Super Slurper” and the name stuck.



Since the beginning, the positive qualities of Super Slurper make it an “earth friendly” product. Super Slurper is made from corn starch which is a renewable resource. Each corn plant we grow to make corn starch also grows the seeds to grow the next corn crop. Super Slurper is both biodegradable and non-toxic which is good for the environment. The basic technology of Super Slurper was the inspiration for other absorbent products such as disposable diapers, medical and surgical materials and dressings, and reusable gel cooling packs.

Another use for Super Slurper began in 2003 in libraries. Super Slurper was used to dry books, papers, photographs, and other materials soaked by water from flooding, leaks, and other disasters. Using Super Slurper to salvage water-damaged materials was much faster than air drying the materials. Tests showed that Super Slurper could dry several wet books in about 10 minutes. Air drying could take weeks. Mold, which can begin to grow in just 48 hours, could be eliminated if Super Slurper was used.



Over the years, scientists have found new ways to use Super Slurper and similar products. One business that uses this technology today is the Nursery and Greenhouse Industry. Super Slurper and similar products are used as a seed coating which absorbs and holds moisture around a seed and encourages it to germinate quickly. Mixtures have been created that keep tree roots moist until the trees can be planted.

Products such as these help us to use water more efficiently. Scientists continue to look for new uses for this product. What will they think up next?

# How Well Did You Read?

1. How many years ago was Super Slurper discovered? Show your work.

2. Which of the following words describe Super Slurper?

1. Toxic
2. Earth friendly
3. Biodegradable
4. Non-renewable



5. How does the Nursery and Garden Industry use Super Slurper?

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6. What is another way that people might be able to use Super Slurper?

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# Germinating Corn Seeds

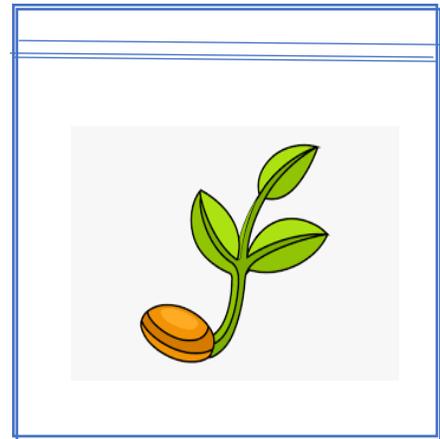
## Materials:

1. 5 corn kernels
2. 1 Ziploc bag
3. 1 paper towel
4. Spray water bot



## Instructions:

1. Dampen paper towel with spray bottle.
2. Place wet paper towel in Ziploc Bag.
3. Place corn seeds on top of wet paper towel.
4. Close Ziploc Bag.
5. Place Ziploc Bag in a warm, sunny spot.
6. Add water to paper towel when it dries out.  
**Keep the paper towel damp, but not wet.**
7. Observe your plant growing in 10 - 14 days!



## How it Works:

What's going on? Germination! That means the plant is sprouting its roots. You can't see the roots sprout when the seed is under soil, but since there is no soil in this experiment you can see the whole process!

## Take it Further:

1. Prepare two bags of corn seeds but put one in a sunny area and one in a dark area. Observe their similarities and differences.
2. Chart the growth of your corn plants each day using a ruler.
3. Try moving your corn plants into some soil. Remember to water them and give them some sun!



## Corn Trivia

- Since cows, pigs, and chickens all eat corn, your breakfast of milk, bacon and eggs is all related to corn!
- Corn is a major component in many food items like cereals, peanut butter, snack foods, and soft drinks.
- U.S. researchers have led the way in finding many uses for corn - like in vitamins and amino acids.
- Corn is used to produce fuel alcohol. Fuel alcohol makes gasoline burn cleaner, reducing air pollution, and it doesn't pollute the water.



## Joke Time

1. What did Baby Corn say to Mama Corn?
2. What do you call a corn cob with only one kernel?



### Joke Answer:

1. Where's Pop Corn?
2. A un!corn

## Did You Know...?

Freezing pizza is a problem, because the moisture in the sauce can migrate into the crust, making it soggy. Modified corn starch is used to provide a barrier that prevents water migration and keeps the crust crisp.

Candy makers began using corn syrups in lollipops and other hard candies generations ago because the syrups hold moisture and prevent drips.



As a box of ice cream goes in and out of freezers on the way home from the store and in the kitchen, it's natural for crystals to develop in it. Part of the role corn sweeteners play in ice cream and other frozen desserts is to keep crystals from developing.



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