

Joel Wagner
Water Retention

The purpose of this investigation was to test ways of creating an artificial water retention method to absorb water and keep it near a wheat seed to help with the sprouting of the wheat seed. These methods could be used during extreme drought seasons, but may only be needed as a last resort, as it could become costly. The researcher hypothesized that if 6 seeds were planted in 1.5 ounces of soil with the product “Superabsorbent Crystals” they would have the best growth over seven days compared to the control plants, the plants with “Insta-Snow”, the plants with a layer of diaper material, and the plants with pre-absorbed “Insta-Snow” and pre-absorbed “Superabsorbent Crystals”.

The experimentation was carried out by using a 36 slot seed starter to plant 36 Ripper Hard Red Winter Wheat seeds in 1.5 ounces of soil for each. The plant tray was sectioned off into six sections of six. Section 1 (1-6) was the control which was plain soil. Section 2 (7-12) was soil mixed with “Insta-Snow”. Section 3 (13-18) was soil with a layer of “Superabsorbent Crystals” $\frac{3}{4}$ of the way down with the wheat seed right on top of this layer. Section 4 (19-24) was the same as section 3, but instead of the crystals, there was a layer of the material found in the lining of a diaper. Section 5 (25-30) had a layer of pre-absorbed “Insta-Snow” $\frac{3}{4}$ of the way down, as was with section 6 (31-36) in which was a layer of pre-absorbed “Superabsorbent Crystals”. The seeds were each given 20 milliliters of water and left to grow for one week.

After a week, the data collected proved my hypothesis false as the average length of the roots and sprouts of the soil mixed with “Insta-Snow” were longer than those of any other of the three randomly selected seeds from the other 5 sections. The average root length of the seeds from section 2 (7-12) was 1.35 cm and the average sprout length was .75 cm.

These findings led to the conclusion that of the 6 methods tested, Soil mixed with “Insta-Snow” was more beneficial to the seeds than any other method tested.