



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Janelle A. Williams	Project Number S1618
Project Title Does Cottonseed Prehydrated in Gibberellic Acid Germinate Faster than Simple Water?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this year's experiment is to build on the previous five years work on presoaking of cottonseed before planting. This year's project is to see if presoaking cottonseed in Gibberellic Acid in different concentrations has the same positive results as the presoaking of cottonseed in water only.</p> <p>Methods/Materials Materials: Greenhouse, paper towels, Micrometer, Cottonseed, Water, Gibberellic Acid, pen, Identifying Sticks, Stopwatch, Buckets, storage bags, Soil, Planting Containers Procedure: 1.Count out 320 cottonseeds. 2.Divide into eight equal lots. 3.Mix with water Gibberellic Acid concentrations of 1ppm, 5ppm, 10ppm, 15ppm, 20ppm, and 25 ppm (parts per million). 4.Presoak 40 cottonseeds for ten minutes in Gibberellic Acid concentration of 1ppm. 5.Repeat for five, ten, 15, 20, 25 parts per million concentrations, and simple water. Set one group of 40 seeds off to the side as the control group. 6.While soaking lay out paper towels in eight different groups and place soil in seeding containers. Place one paper towel strip over another, the cottonseeds will rest between the two strips. Wet the paper towels and soil so that both will be wet when seeds are placed between them. 7.Drain the seeds from the concentrations and water after ten minutes. 8.Place 20 seeds of each concentration and water spread out about 4mm away from another in the eight groups of paper towels, this includes the control group. Place paper towels in Zip-lock bags and close. Keep like groups together and label. 9.Take the other 20 seeds for each group and plant in soil as if planted in the ground to later be harvested. Label and then place in a greenhouse. 10.Water each day, just enough to soak the paper towels and soil. After two, four, six, eight, and ten days have passed check plant emergence, and measure the radical for length on the 8th day of seeds in the bags. Record results.</p> <p>Results The results show that presoaking of cottonseed in Gibberellic Acid with the concentration of five part per million germinated faster than other concentration, presoaking of simple water, and not presoaking at all.</p> <p>Conclusions/Discussion The results from this year's trial showed that presoaking cottonseed in five parts per million Gibberellic Acid solution germinated faster than any other treatments. This means that by taking the results of past experiments, there is a better treatment of presoaking cottonseed than by just using simple water.</p>	
Summary Statement The project is on prehydration of cottonseed in different concentrations of Gibberlic Acid to find a concentration that will germinate faster than prehydration in simple water.	
Help Received Russel Carlson - Supplied Gibberlic Acid, Mr Krafthefer - Helped with concentrations and provided pipet, Mrs. Jennifer Wilke - Provided the Bakersfield High agriculture department greenhouse.	