



California Science Center  
**CALIFORNIA STATE SCIENCE FAIR**  
**2001 PROJECT SUMMARY**

<b>Your Name</b> (List all student names if multiple authors.) <b>John M. Greenfield</b>	<b>Science Fair Use Only</b>  <span style="font-size: 2em; font-weight: bold;">S1606</span>
<b>Project Title</b> (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) <b>Electrical Stimulation and Seed Germination</b>	<b>Division</b> _ Junior (6-8) <u>X</u> Senior (9-12)
<b>Preferred Category</b> (See page 5 for descriptions.) <b>16 - Plant Biology</b>	
<b>Abstract</b> (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.	
<p><b>Objective:</b> Determine if electrical stimulation will enhance seed germination.</p> <p><b>Materials and Methods:</b> A set of two control and two test seed germination planters (one AC current and one DC current) were constructed with strict variable control on soil content, water, light source, seed source, electrical source, and temperature. Seed germination progress was monitored at 12-hour intervals. Number of seeds germinated was determined, recorded, mapped, and graphed.</p> <p><b>Results:</b> Seed germination in the electrically stimulated planters was greater in both number and speed of seed germination than in the control (non-electrical stimulated) planters.</p> <p><b>Conclusion:</b> Electrical stimulation from both AC and DC current causes 1) greater number of seeds to germinate, and 2) more rapid seed germination than non-electrically stimulated seeds.</p>	
<b>Summary Statement</b> (In one sentence, state what your project is about.) My project tested the effect of electrical stimulation on seed germination.	
<b>Help Received in Doing Project</b> (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. Dad/Mom purchased items for planter construction. Dad let me use his workshop (tools and electrical items) to construct planters.	