



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Andy M. Van Noy</b>	<b>Project Number</b> <b>J1625</b>
<b>Project Title</b> <b>More Than Just a Hill of Beans: Is It Possible to Grow a Better Bean?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective was to determine whether or not crezacin, a synthetic plant adaptogen, would improve the germination rate, growth and/or weight of pole bean plants.</p> <p><b>Methods/Materials</b> Crezacin was measured with a gram weight scale and three concentrations of solution were made up of crezacin and water. Seventy-two pole bean seeds were divided into four groups, including a Control Group and three Variable Groups representing the different concentrations of crezacin. Variables of light and temperature were restricted to one location. Germination rate was recorded, and growth rate was measured until the beans were harvested. Final height, weight and number of beans germinated were calculated to gain my results.</p> <p><b>Results</b> My results showed that crezacin did not improve the germination rate, growth rate, or weight of the beans. However, the Variable 1x grew to surpass the Control Group in weight.</p> <p><b>Conclusions/Discussion</b> Crezacin, a synthetic plant adaptogen derived from <i>Eleutherococcus senticosus</i>, has been used in Russia to improve crop production and has shown favorable results in field trials on cotton here in the United States. I believed that I would show the same results in pole beans of improved germination rates, increased growth rates and increased weight of plants. My experiment did not show these results. In fact, the greater the concentration of crezacin, the worse the results. In the future, I would like to do this experiment growing the beans for a longer period of time and using hydroponics as a growing environment.</p>	
<b>Summary Statement</b> My project was intended to show whether crezacin would improve the germination rate, growth and weight of pole beans.	
<b>Help Received</b> Mother helped with some of the typing; Father helped with measuring the crezacin concentrations; Dr. Ben Tabachnik helped by providing me with concentration levels used in agriculture and by giving me the cotton trial reference paper.	