



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

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|---|---|
| <b>Your Name</b> (List all student names if multiple authors.)<br><p style="text-align: center;"><b>Geolani W. Dy</b></p>   | <b>Science Fair Use Only</b><br><br><h1 style="margin: 0;">S1810</h1> |
| <b>Project Title</b> (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9)<br><p style="text-align: center;"><b>Which Sugar Do Bees Prefer?</b></p>  | <b>Division</b><br><u>S</u> Junior (6-8) <u>S</u> Senior (9-12)       |
| <b>Preferred Category</b> (See page 5 for descriptions.)<br><p style="text-align: center;"><b>18 - Zoology</b></p>  |   |
| <b>Abstract</b> (Include Objective, Methods, Results, Conclusion. See samples on page 14.)<br>Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.  |   |
| <p><b>Objective:</b> My project was to determine whether or not honeybees can tell the difference between sucrose and other sugars sprayed on flowers, and which they prefer. My hypothesis was that most bees would visit sucrose, since it is in nectar.</p> <p><b>Materials and Methods:</b> Four different sugar solutions made of dextrose, sucrose, fructose, lactose or plain water were mixed with water. Equal amounts of each solution were sprayed on five separate pansies and placed equal distances in front of a beehive. The number of bee visits to each flower within 40 minutes was counted, and sugars were rinsed off of the flowers. Then tests were repeated as five sugars were sprayed on different flowers, which were moved to different positions in front of the hive.</p> <p><b>Results:</b> In an average of all results, 30% of bee visits were to sucrose as opposed to the 19% visits received by fructose and water, the second most visited solutions. Flowers sprayed with lactose were visited by 16% of all bees, and 15% visited dextrose.</p> <p><b>Conclusions:</b> My conclusion is that since bees are accustomed to eating sucrose nectar, it is the sugar they are most likely to visit. Sucrose must have qualities that other sugars lack. With this experiment, I was able to attain my objective.</p> |   |
| <b>Summary Statement</b> (In one sentence, state what your project is about.)<br><p style="text-align: center;">My project tests whether or not bees prefer sucrose to other sugars.</p>  |   |
| <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.<br><p>Mr. Willats, science teacher, helped to create project idea; Mrs. Phillips, science teacher, gave sugars for testing; Parents provided transportation; Mr. Bradley, beekeeper, provided bees</p>  |   |