



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Linnea M. Shorey	Project Number J1629
Project Title Can a Disease Cross Species?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Last year I tried to spread diseases from one plant to another, but it did not work. I thought that maybe my experiment from last year did not work because plant diseases can not cross species. The goal of my experiment was to see if I could transfer Cucumber Mosaic Virus (CMV) disease to other plant species. When I did my research I found out that 800 different kinds of plants get CMV. This made me think that the disease I was using would make all my plants sick.</p> <p>Methods/Materials Healthy bean, tomato, melon, tobacco, bell pepper and squash plants were put in two groups. My disease source was squash with Cucumber mosaic virus. The test group of plants was rubbed with CMV positive leaves ground up in phosphate buffer. The healthy control group was rubbed with phosphate buffer only. Plants were measured over time to see changes.</p> <p>Results For each kind of plant tested, I checked three things to tell if the plant had any signs of being sick. First I counted the leaves, I found that the sick plants did not produce as many leaves as the healthy plants. The second thing I measured was the height of the plants. Sick plants maybe grew one or two inches then the disease started to kill them. One of the symptoms of CMV is stunting. The third thing I did was to look at the leaves for changes. I saw leaves that were stringy and wrinkled instead of broad and flat. I also saw some leaves that were cupping up and others were curling under. Many leaves got a starry night pattern or other kinds of spots on them. This is called a mosaic pattern. All the different kinds of plants tested got sick with CMV.</p> <p>Conclusions/Discussion All of the plant species I tried to get sick, got sick. My results show that all my sick plants were shorter, usually had fewer leaves, and the leaves had disease symptoms on them. The leaf symptoms were like what was described in my references. So I proved my hypothesis was correct. At least in plants a disease can pretty easily be spread across species.</p>	
Summary Statement I took Cucumber Mosaic Virus and tried to spread it to different plant species.	
Help Received I used greenhouses and CMV control plants at Seminis Vegetable Seeds in San Juan Bautista, CA. My mom helped with research.	