



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY**

Name(s) Ashley Schletewitz	Project Number J1612
Project Title Determining the Effects of Equisetum hyemale on the Growth Rate of Penicillium italicum	
Abstract Objectives/Goals The objective of this study is to determine if Equisetum hyemale can inhibit the growth of Penicillium italicum fungi. Methods/Materials Potato agar was mixed with Equisetum hyemale in a sterilized inoculation chamber at different concentrations; then poured into petri dishes. Next, the petri dishes were inoculated with Penicillium italicum and observed for seven days. Fungi colonies were then counted using a stem cell grid. Results The petri dishes containing higher concentrations of Equisetum hyemale were more effective in inhibiting the growth of the penicillium italicum than those of lower concentrations. Conclusions/Discussion Multiple trials revealed that a 13% concentration of Equisetum hyemale was proven to inhibit the growth of Penicillium italicum. These findings are extremely important because they prove a potential for Equisetum hyemale to be used by farmers as a natural organic alternative to the environmentally harmful heavy metals that are currently being used as fungicides.	
Summary Statement I discovered a natural organic solution to a destructive citrus fungus that could potentially save the agriculture industry millions yearly.	
Help Received Sanger High Schools AP Biology teacher, Mr. Aalto, showed me how to prepare the solutions and use his inoculation chamber for my testing. I mixed and performed all testing on my own.	