



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Shelly A. Holder	Project Number J1710
Project Title A-maize-ing Flotation	
Abstract Objectives/Goals Soil samples from the excavations at the Oasis of Mara were put through the flotation process to determine whether the northern side of the oasis, during occupation by the Serrano and Vanyume Indians, was agriculturally dominant over the southern side. Methods/Materials Methods: I processed the 88 soil samples through the flotation tank to separate the light fraction (botanical and organic material) from heavy fraction (rock) and soil. I then visually analyzed and weighed each sample so I could compare the two sides of the Oasis of Mara. Materials: I used a flotation tank (made from 15- or 55-gallon drums & PVC pipe), metric scale, paint strainers, dissecting microscope, microscopic camera and acid free bags. Results I found botanical materials in every sample. However, the weight of the botanical materials was more substantial in the samples taken from the north side of the datum line. The samples from the south side of the datum had more weight in the recovered materials. Conclusions/Discussion I was not able to prove that the botanical materials were of an agricultural nature because to do so I would have to identify each plant piece using a high-powered electron microscope.	
Summary Statement The flotation process was used to separate out botanical materials so they could be analyzed and compared based on the sample's location.	
Help Received My mother helped type the project and printed photos. My father took pictures and built the tanks. Prof. Richard Cerreto allowed use of field material from the Oasis of Mara.	