Walnut: Sustainable Solution to Halitosis

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The project seeks to find a sustainable and permanent cure for halitosis which is the persistent bad breath that comes from human mouth and it is more pronounced in the morning. Conventional mouth washers only mask the effect and do not sufficiently address the cause, and most times, the cost are above the reach of average Nigerians. Walnut, a creeping plant is commonly found in the southern part of Nigeria, but no use has been found for it apart from the seasonal consumption of its cooked seeds as an after meal snack. 35 human subjects were used in the experiment with 10 in each group and 5 as control. Four cooked walnut seeds were given to first group of the human subjects daily for 10 days; comprising of 15 students, 10 with halitosis and 5 without. Also chewing gums made from walnut seed extract were given to a second 10 set of students with 5 having halitosis and 5 not having. A third set of students were given mouth washers made from 50% walnut and 10% lime as preservative. Breath observations were recorded over three week duration. Bacteria activity and examination of the mouth extract of different concentration through serial dilution were carried out before and after the experiment as well as the breath reading. It was observed that the halitosis was greatly significantly suppressed in the three experimental categories of students and those without halitosis observed that their mouth was unusually fresh when they wake up in the morning having consumed cooked walnut seeds last thing previous night. Similarly, it was observed that walnut extract significantly suppressed bacteria activity. The plant and its derivatives if sufficiently developed and utilized will provide a great relief to many plagued by the disease.

Awards Won:
Sigma Xi, The Scientific Research Honor Society: Second Life Science Award of $1,000