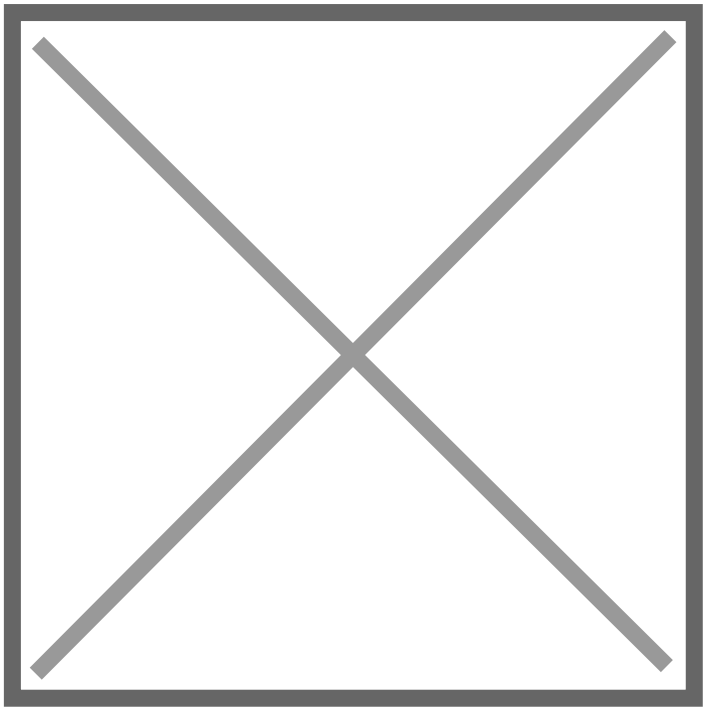
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Indian students dazzle at global Intel Science Fair

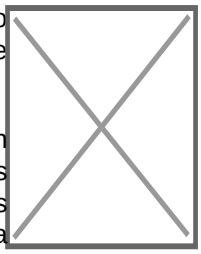
10 June 2003 | News



Twelve Indian students from all over India, selected through national trials, participated in the annual Intel Science and Engineering Fair (ISEF) in Cleveland, Ohio in May. They were part of some 1300 students from 35 countries, in classes 9 to 12, who exhbited their award-winning science projects at the annual Fair. ISEF, the world's largest science exhibition for school students, organized for the last 54 years by the non-profit Science Service, is being sponsored by Intel since 1997.

Here is a profile of some of the award winning projects by Indian students.

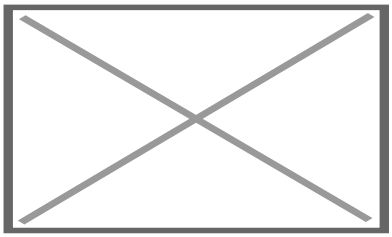
Carbon Nano Tubes



An award winning project at the Intel Science fair was the one by Mumbai-based Bhushan Mahadik who found out that carbon nano tubes (CNTs) can inhibit the growth of pathogenic bacteria like E.Coli in the presence of visible light. Preliminary studies on cancerous cells too did the same.

He showed that CNTs can be produced from plant-based oils and the temperature variations of resistance in the presence and absence of hydrogen suggested a possible storage of hydrogen in some samples. CNTs were synthesized by chemical vapor deposition utilizing plant based oils and suitable metal catalysts. CNTs were then purified by treating them with hydrogen nitrous oxide (HNO3) and hydrogen chloride. Bhushan is a class 11 student at Fr Agnel Junior College, Mumbai.

Cucumber juice is aspirin substitute



Cousins Nikhil Thatte and Samhita Rao at IES VN Sule Guruji School, Dadar, Mumbai successfully evaluated the invitro effect of selected food items on platelet aggregation.

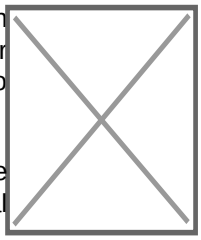
They evaluated whether common food items like orange, sweet lime, cucumber and lemon in the juice form have anti-platelet effect.

They also studied the in vitro effect of these juices on platelet aggregation (clotting of blood) as well as document its interaction with aspirin and assess the dose response relationship.

They found that cucumber juice was very effective in preventing the clotting of blood. This effect is similar to that of aspirin tablet which is known to prevent clotting of blood and reduce the risk of heart attack.

Nikhil and Samhita plan to find out the active ingredients of cucumber and other juice which help in this phenomenon using high performance thin layer chromatography.

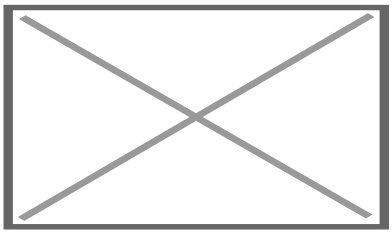
Coconut flower oil controls uterine bleeding



Maithili Dalvi at Smt. Sulochanadevi Singhania School showed that an extract of coconut flower oil helps in stopping abnormal and excessive uterine haemorrhage. She extracted oil from coco mucifera flowers. Her conclusions were based on tests on 24 women. Some compounds in the oil appear to be similar to progesterone or its derivatives.

In the future she intends to study the chemical nature of the active constituents in the coconut flowers. The alcoholic extract of the coconut flower will be evaluated and compared with the aqueous extract. Clinical trials will be carried out in a large number of patients and animal model studies.

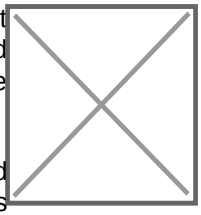
Pruning branches with neem oil



In commercial plantations it is a major headache to prune unwanted branches that grow quickly. P Senthalir and S Sharanya, class 11 students at Avila Convent Matriculation Hr Secondary School, Coimbatore have developed a simple method to develop a less intensive mechanism to eliminate the lower branches in trees.

They tried it with neem oil. Their studies showed that by applying a 100 percent concentration of neem oil-water mixture, lower branches of a tree could be suppressed to the extent of 78 percent and for coppice shoots by 85 percent. They intend to take the study further by varying the concentrations of the neem oil mixture.

Cattle pregnancy detection kit



Varun Kumar at Sri Vani Public School, Bangalore has devised a simple germination test to detect pregnancy in cows. He collected urine samples of cows and tried to germinate seeds of paddy, wheat and green gram in it. It was found that high content of uric acid and abscisis acid in pregnant cow's urine inhibited the germination of seeds after five to seven days.

Using this simple method it was possible to determine the pregnancy in cattle at a very early stage itself and it can eliminate the need for rectum examination currently in use. Varun intends to experiment with various locally available seeds in different regions on different breeds and cattle of different ages.