

A monthly features service about science, technology, and development

IDRC-F201e

SCIENCE WORLD

(a collection of development-oriented science news briefs that may be used as a column, or as separate items)

DEMYSTIFYING MYCOTOXINS

(approx. 200 words)

Mycotoxins are poisonous molds that grow on food. Some of them, such as naturally-occurring penicillin, have proved to be beneficial to man. But many are lethal.

One of these is aflatoxin. Discovered only two decades ago, aflatoxin is associated with many common foodstuffs. It is also associated with cirrhosis of the liver, and Reyes syndrome, and acute children's disease that is sometimes fatal. Malnourished children are particularly prone to disease resulting from eating food contaminated by mycotoxins.

High levels of aflatoxin have been detected in many commonly eaten foods in the Gezira district of Sudan. Researchers in the University Teaching Hospital of Khartoum are now studying the possible relationship between this fact and unexplained liver disease in Sudanese children. Supported by a grant from Canada's International Development Research Centre they will also examine mycotoxin levels in stored foods of all kinds, and try to determine if there are seasonal variations in this form of food contamination.

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Eventually, the researchers hope to be able to develop new methods to measure mycotoxin levels in the body, thus providing an early warning system that could help prevent diseases.

BETTER BAMBOO BUILDINGS

(Approx. 220 words)

Like most Asian countries, Indonesia is a major producer and consumer of bamboo. It is an important raw material, widely cultivated in rural areas, and used for everything from food to furniture. But the greatest part of the 3.3 million tonnes of bamboo harvested annually in Indonesia -- about 80 percent -- is used for construction.

Large bamboo culms are used for house posts, smaller pieces for roof frames, and split bamboo sheets are used for walls, ceilings, and roofs. It's an inexpensive, renewable, locally-produced resource. But it is also prone to attack by fungi and insects such as beetles and termites.

Bamboo lasts longer if it is treated with chemical wood preservatives, but these are expensive, and often unsuitable for rural industry. Now the researchers at the forestry faculty of Gadjah Mada University, supported by a grant from Canada's International Development Research Centre, are studying some of the traditional preserving methods used by the villagers. By finding out what works, what doesn't, and why, they hope to develop a simple, low-cost method of increasing the durability of bamboo buildings.

The researchers will also use X-ray machines to study the life cycle of bamboo-boring insects. They believe that by learning more about the enemy, they may find ways to defeat him. The project will take two years to complete.

THE POT THAT CLEANS

(approx. 160 words)

An award-winning pot from Guatemala may help bring make safe, clean water available in rural areas at an affordable cost.

The pot is actually a filter. It is made of clay, and it contains another clay container. The clay of this inner pot is mixed with silver colloids that provide a disinfectant action. Water poured into the inner container filters through into the larger one. The efficiency of this simple system in removing pollutants and bacteria is said to be excellent.

The filter is simple to make, as it is very similar to ordinary household pottery, and can be produced for about US \$9. Its effective life is about one year, supplying enough drinking water for a family of four,

The award? The filter's inventors at the Central American Institute of Research and Industrial Technology, in Guatemala, received the annual award of the Inter-American Association for Sanitary and Environmental Engineering in Central America for their innovation.

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March, 1982