Plastic Bags made from Orange Peels and CO2

A team of researchers from the Cornell University hope to kill two birds with one stone after they have developed a plastic bag which is made out of orange peels and CO2, which makes it both biodegradable and renewable at the same time. The scientists describe a way to make polymers using limonene oxide, which is found in citrus fruits and carbon dioxide, with the help of a novel "helper molecule," a catalyst developed in the researchers' laboratory. "Almost every plastic out there, from the polyester in clothing to the plastics used for food packaging and electronics, goes back to the use of petroleum as a building block," the researchers wrote in their study. "If you can get away from using oil and instead use readily abundant, renewable and cheap resources, then that's something we need to investigate. What's exciting about this work is that from completely renewable resources, we were able to make a plastic with very nice qualities."

Scientists Develop Protein-rich Potato

A genetically engineered, protein-enriched potato is being readied for commercial field-testing in India. Developed by Asis Datta at the National Centre for Plant Genome Research in Jawaharlal Nehru University, the "protato" - "pro" from protein and "tato" from potato - has up to 35 percent more protein than a normal potato due to a gene transfer from the amaranth plant. Potato, a starch-rich tuber, contains barely one percent protein while the amaranth plant has nutrition-rich leaves and seeds used for culinary purposes. Scientists have isolated the gene in the amaranth responsible for protein synthesis and have introduced it into potato, thus increasing the tuber's protein content. Protato would make a world of difference in nutrition since more than 40 percent of the world's malnutrition was caused by protein deficiency. Though India is the world's largest potato producer, it does not export any since domestic consumption itself is high.

DNA Technology Identifies Criminals on the Spot

USING a hand-held scanner, police officials will soon be able to identify criminals at the crime spot itself, thanks to a new DNA technology developed by British scientists. The scanner that is pre-fed with a massive DNA database, when fed with parts of skin, hair or body fluids from the crime spot, would break it down and turn it into a unique DNA profile. The machine would then send a digital message to a central computer, which would respond with the person's identity if he figures on the police's rapidly growing database. According to one detective, in future the only way criminals would be able to avoid being caught would be if they were "booted and suited" in protective clothing and carried their own oxygen supply. "Just now we have ways of DNA profiling in a laboratory that take a little time. We are trying to miniaturise that into a little device," says Adrian Linacre, an expert in forensic science.