which include a good measure of eminently edible glucose. Pure glucose may not sound like a five-star meal, but evidently the microorganisms add some flavor compounds for seasoning.

Now the Purdue workers are exploring a way to harvest the fruits of all that microbial effort. Ladisch says space travelers may have to bring along a liquid chromatograph to sieve glucose and other edible carbohydrates from inedible ones. Preliminary tests suggest that such a system for converting waste into food could up the efficiency of space-based farming by as much as two-thirds.

The next challenge is to adapt present liquid chromatograph designs to fit the extra requirements of space flight, Ladisch says. Since he thinks astronauts could be bound for Mars within 20 years, he's not wasting any time.

## Hope for African Elephants

Lindblad/African Wildlife Foundation

*East African elephants*

Just 2 years ago, conservationists were saying that the African elephant was doomed to disappear—that little could be done to stop poachers from wiping out the greatest living land mammal. The numbers seemed to support the sad prognosis: The continent's elephant population had dropped from 1.3 million in 1979 to 609,000 in 1989. But now there's some good news: Paleontologist Richard Leaky is claiming victory in the war against poachers.

"We've turned the tide for elephants," exulted Leaky at a luncheon last month at the National Press Club in Washington. Leaky, Kenya's director of Wildlife Services since early 1989, reported that last year only 55 elephants were slaughtered by poachers in Kenya—down from a high of 5000 elephants a year in the late '80s (including an average of three elephants killed every day in 1988 in one game park alone). Similar declines have been reported in Uganda and Tanzania.

The sharp drop in poaching came immediately after an international ban on commercial trade in ivory was implemented in 1989. Leaky said the ban, along with an intensive campaign to persuade Western consumers not to buy ivory, appears to have paid off: The price of ivory has dropped from $30 a kilogram in 1989 to about $3 today. That, said Leaky, is the chief disincentive to poachers, who had not been fazed by Kenya's official policy "to shoot to kill" them on sight.

Despite the dramatic initial success, Leaky, who was in the United States on a tour to raise money for African wildlife management, warned against complacency. He said that African nations are pressing for an end to the ban so they can regain the profits from the ivory trade. Said Leaky: "We should be focusing attention not on beating the ban, but on ways to beat the hardship the ban has caused."

## $11.5-Million Housecleaning

Residents of East Stratford Avenue in Philadelphia can breathe easier. The site of one of the few private houses ever to make the Environmental Protection Agency's (EPA) National Priorities List of Superfund sites is about to be certified as clean, according to the newsletter *Superfund*.

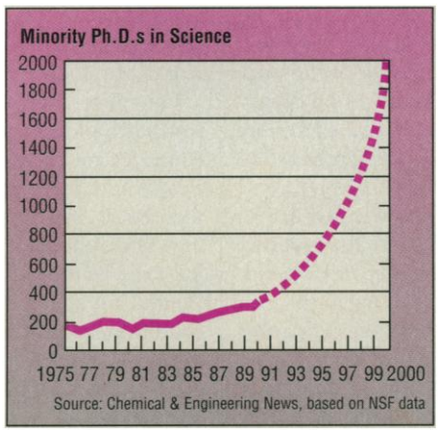
An $11.5-million cleanup has ended a history of radioactive contamination that began in the 1920s, when a Dr. Dicran Kabakjian moved into the house and, with his wife, set up a mom-and-pop radium-processing operation in their basement. For the next 20 years the Kabakjians refined the hazardous metal and fashioned it into radioactive implants for cancer treatment. The doctor's methods were crude even by the standards of the time—he tracked radium around the house, flushed it down the drain, and dumped piles of tailings on flower beds in the yard. "Very few parts of the house escaped getting contaminated," says Philadelphia EPA official Victor Janosik, who oversaw the cleanup.

When the state turned the site over to the EPA in the early 1980s, investigators found radiation up to hundreds of times natural background levels—in spite of an earlier cleanup in the 1960s, which Janosik estimates had already removed about 90% of the radium inside the house.

In 1989 the Army Corps of Engineers was brought in to do a thorough cleanup. Two elderly women (who had lived in the house for years without apparent ill effect) were moved out, the house was demolished, and the topsoil was scraped away, in some places to a depth of 11½ feet. More than 4000 tons of soil and 1000 tons of rubble were trucked to a disposal site in Utah.

Now, says Janosik, the site is "probably the cleanest spot in southeastern Pennsylvania." He expects it to be removed from the Superfund list within a few months. And just how much stray radium caused all the trouble? An Argonne National Laboratory study of the site estimated the total at about a gram.

**A man's reach must exceed his grasp**—*or what's an "education president" for? People often talk about "the year 2000" as though it were still several decades off. President Bush, for example, intends to haul America's schoolchildren from the bottom ranks to world leaders in science and math within the next 8 ½ years. And one of the millennial goals of the National Science Foundation is to increase the production of (non-Asian) minority Ph.D. scientists from 350 to 2000 a year (see chart). Currently, 22% of the population is black, Hispanic, or Native American, but in 1988 those groups accounted for only 4.4% of natural scientists and engineers.*




### Correction

Contrary to what we reported, the horned dinosaur Chasmosaurus (*Science*, 12 April, p. 207) did not have the largest skull of any land animal. Paleontologist Paul Sereno of the University of Chicago says that honor belongs to Triceratops, another member of the family Ceratopsidae.