SCIENCE NEWS®
The Weekly Newsmagazine of Science
Volume 154, No. 6, August 8, 1998

This Week

84 Russian Queens Bee-little Mites' Impact
Janet Raloff

84 Teens put cultured spin on friendship
Bruce Bower

85 DNA vaccines for rabies, rotavirus advance
Nathan Seppa

85 Tiles of DNA assemble with a designer fit
Corinna Wu

86 Hubble gets multiple views of distant galaxy
Ron Cowen

86 Ant queens with wrong genes lose heads
Susan Milius

87 Patton tank marks suggest long recovery
Jeffrey Brainard

87 Ultracold atoms: New gravity yardstick?
Peter Weiss

Articles

88 Exploring New Worlds
Scientists puzzle over extrasolar planets
Ron Cowen

92 When Worlds Collide
Why can't conservation scientists and indigenous peoples just get along?
Susan Milius

Research Notes

91 Astronomy
Episilon Eridani: An early solar system?
Solar craft contacted

91 Biology
Why do pigeons get so romantic?
Downstream trout swim but can't hide
Slime coating counts in love darts

95 Paleontology
Climate did in giant Mongolian mammals
Attacking an enigma with engineering

95 Science & Society
Wetlands accounting—all wet?
U.N. calls for action on climate change
Job jeopardy may imperil health

Departments

82 Science News Books

83 Letters

Cover: Collaborating for the sake of science with indigenous peoples, such as the Hopi who make kachina dolls, may sound like a great idea, but building working relationships has proved tricky. **Page 92** (Hopi kachina by Cecil Calnimptewa, photo by Tom Tallant/ Canyon Country Originals)

Visit SCIENCE NEWS ONLINE for special features, columns, and references.
http://www.sciencenews.org

Letters

Garbage-can superiority

Perhaps the protagonists of "Ka-boom!" (SN: 6/6/98, p. 366) should be looking for something more fundamental than fortuitous geometry to explain the superiority of a $6 garbage can to a $1.2 million Hydrodyning tank as a vessel for explosive meat tenderization. It might be worth questioning whether water immersion and chemical explosives are truly key to the process or merely carried over from Long's original inspiration.

In the tank, a contained system, only the explosive explodes; everything else experiences compressive or implosive shock waves. But when garbage can containment fails catastrophically, there's a sudden decompression: The can and water explode, and the meat, trying to do likewise, is pulled apart.

I wonder what would happen to a tough cut of meat in a vessel engineered to discorporate totally and instantaneously—but restorably. How much cleaner, cheaper, and simpler it would be to just put such a tank in a containment cage and add only meat.

David Bortin
Whittier, Calif.

Sorting through soy

Regarding the article "Soyanara, heart disease" (SN: 5/30/98, p. 348), there is considerable disagreement as to the nature of the active component of soy proteins. We are convinced that isoflavones have little if anything to do with the cholesterol reduction. We have, in fact, evidence that genistein may even raise cholesterol. We have recently uncovered some components of soy protein (that are not isoflavones) that are likely responsible for lowering cholesterol.

Cesare R. Sitori
Università Degli Studi di Milano
Via Balzaretti, Milano

In the article on soy, there is a seeming inconsistency. The caption says "Ground soy protein is one of the most concentrated sources of isoflavones." However, elsewhere the article states that in a trial, each volunteer was asked to drink a "milkshake" with 25 grams of soy protein and that some of the shakes contained negligible amounts of isoflavones. How can that be if soy protein is a concentrated source of isoflavones?

Richard E. Winkelman
Los Altos Hills, Calif.

The only reason that some protein shakes had "negligible" amounts of isoflavones is that these hormonal agents were filtered out by the manufacturer specifically for the experiment—precisely so that effects with and without them could be distinguished from the effects of the protein that they normally accompany. —J. Raloff

Veggie wash

The article "Wash-Resistant Bacteria Taint Foods" (SN: 5/30/98, p. 340) referenced the use of a mixture of vinegar and hydrogen peroxide in a dip to wash vegetables. Since I'm not a grocer or restaurant owner, I probably won't need the commercial product, so would it be possible to find out the ratio of vinegar and hydrogen peroxide used by Sumner and whether the vegetables should be rinsed?

Charles Burdine
Austin, Texas

The new commercial dip evolved from Sumner's earlier data showing that spraying foods with off-the-grocery-shelf white vinegar and

Letters continued on p. 94

ing. Based on Snook's research, the local people are changing the way they replant mahogany.

Snook also attributes the success of her project to her continuing efforts to involve local people. She leads tours of her study plots in the forest and presents periodic updates on her findings.

Failure to make that sort of effort can lead to disaster, says Mac Chapin, an anthropologist from the Center for the Support of Native Lands in Arlington, Va. He illustrates the point with the cautionary tale of how the Kuna people in Panama refused to renew the lease for a Smithsonian Institution research facility that had occupied their land for 21 years. The San Blas Laboratory, a center for studies of reef ecology, closed last month.

Chapin, who has lived among the Kuna, talked to both the local people and the laboratory scientists toward the end of the souring relationship. He blames much of the troubles on the scientists' failure to explain what they were doing. "Every six months they could have had a show," he says.

By the time the matter came to a head at a meeting of the Kuna congress in June 1997, accusations were flying: "Scientists were stealing their knowledge, stealing their reefs, stealing their sand," as Chapin recounts the complaints. Younger Kuna activists concerned about exploitation of intellectual property—that is, how indigenous people get compensated for their lore—teamed up with some of the old guard, who had grown to resent outsiders.

According to Chapin, the researchers also made the mistake of negotiating just with the general congress of the Kuna, not recognizing the importance of nurturing good relations with local communities. "You've got to do a lot of human groundwork," he says. "The Smithsonian didn't think that was necessary." So, out went the scientists.

Chapin predicts escalating clashes between indigenous peoples and their sometime partners. Although the conflicts and concerns often get framed in terms of intellectual property rights, he believes that is "almost a sideshow."

He sees the bigger force for conflict coming from an international, commercial scramble for minerals, timber, and other resources. "It's an outright assault," he says. "It's worldwide."

Often trampled in this mad dash to cash in resources, indigenous people are starting to get tougher and fight back against outsiders, he notes. Scientists and conservationists can expect to bear some of the brunt of that opposition. Chapin says, "I think it's heating up." □

Letters continued from p. 83

off-the-drugstore-shelf hydrogen peroxide killed many pathogenic bacteria—not only on foods but also on kitchen counters. An archived Food for Thought on the research is at our website (go to http:/www.sciencenews.org/sn_arch/9-28-96/food.htm). Sumner put each sanitizer in a separate plastic spray bottle and then moistened the object to be disinfected with each spray. It doesn't matter which comes first. Because the treatment is nontoxic, it need not be washed off. —J. Raloff

I was interested to read the article about wash-resistant bacteria. I grew up in Saudi Arabia. Since we had no idea who might have touched the produce brought in for us or what was used for fertilizer, practically the first thing we learned upon our arrival was to wash all fruits and vegetables in a solution of chlorine bleach and water.

It appears that perhaps I should return to this regimen even for food raised in the United States!

Christine Crawford-Oppenheimer
Poughkeepsie, N.Y.

Interestingly, at the same American Society for Microbiology meeting where the work on vinegar and hydrogen peroxide was reported, Michael J. Casteel of the University of North Carolina described using chlorine to successfully disinfect strawberries tainted with pathogenic viruses.

However, Sumner's work indicates that chlorine bleach is far less effective than the combination of vinegar and hydrogen peroxide at killing bacteria. —J. Raloff