State University. In his letter, he has reduced the annual costs of nutrient and other erosion-caused losses to \$100 to \$120 million. Also, contrary to Crosson's models, a recent model study reports (15) that the annual economic costs of erosion on only 10 crops is a total of \$2.1 billion, much greater than the \$100 to \$120 million for *all* crops, suggested by Crosson.

The major reason for differences between Crosson's and our assessment is that he generally relies on models to develop his results whereas we use data from field experiments of soil scientists for our assessment. Follet and Stewart (16) highlighted this type of controversy, and the results and conclusions between the two groups differed greatly. We believe that models are important, but feel confident that the results from models cannot substitute for data from field experiments.

We assessed the impact of erosion on reduced soil depth, loss of nutrients, loss of water, and on the important factors of soil organic matter and soil biota as well. The holistic assessment, we believe, provides a sound, realistic assessment of the environmental and economic costs of soil erosion. David Pimentel

C. Harvey

P. Resosudarmo

K. Sinclair D. Kurz M. McNair S. Crist L. Shpritz L. Fitton R. Saffouri R. Blair College of Agriculture and Life Sciences, Cornell University,

Ithaca, NY 14853-0901, USA

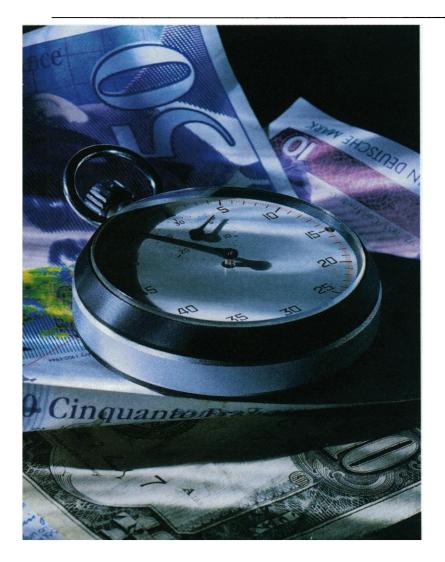
## References

- 1. N. Myers, *Gaia: An Atlas of Planet Management* (Anchor and Doubleday, Garden City, NY 1993).
- The Second RCA Appraisal: Soil, Water, and Related Resources on Nonfederal Land in the United States (U.S. Department of Agriculture, Washington, DC, 1989).
- P. Buringh, in Food and Natural Resources, D. Pimentel and C. W. Hall, Eds. (Academic Press, San Diego, CA, 1989), pp. 69–83.
- D. Pimentel, Ed., World Soil Erosion and Conservation (Cambridge Univ. Press, Cambridge, UK, 1993).
- 5. R. Lal, G. F. Hall, F. P. Miller, Land Degrad. Rehab. 1, 51 (1989).
- J. G. Speth, Towards an Effective and Operational International Convention on Desertification (International Negotiating Committee, International Convention on Desertification, United Nations, New York, 1994).
- H. H. Bennett, Soil Conservation (McGraw-Hill, New York, 1939).
- F. R. Troeh, J. A. Hobbs, R. L. Donahue, Soil and Water Conservation (Prentice-Hall, Englewood Cliffs, NJ, 1991).
- 9. R. Lal, in Soil Degradation, R. Lal and B. A. Stewart,

- Eds. (Springer-Verlag, New York, 1990), pp. 129–172.
  10. N. Myers, *Deforestation Rates in Tropical Forests* and *Their Climatic Implications* (Friends of the Earth.
- London, 1989).
  11. Summary Report 1992 National Resources Inventory (Soil Conservation Service, U.S. Department of
- Agriculture, Washington, DC, 1994). 12. F. R. Troeh and L. M. Thompson, *Soils and Soil*
- Fertility (Oxford Univ. Press, New York, ed. 5, 1993). 13. P. Crosson, in *Erosion and Soil Productivity* (American Society of Agricultural Engineers, St. Joseph,
- MI, 1985), pp. 254–265.
  14. F. R. Troeh, J. A. Hobbs, R. L. Donahue, Soil and Water Conservation Productivity and Environmental Protection (Prentice-Hall, Englewood Cliffs, NJ, 1980).
- P. Faeth, Growing Green: Enhancing the Economic and Environmental Performance of U.S. Agriculture
- (World Resources Institute, Washington, DČ, 1995).
   16. R. F. Follett and B. A. Stewart, Eds., Soil Erosion and Crop Productivity (American Society of Agronomy and Crop Science Society of America, Madison, WI, 1985).

## **Corrections and Clarifications**

In the Research News article "Extreme ultraviolet satellites open new view of the sky" by Donald Goldsmith (14 Apr., p. 202), astronomer Stuart Bowyer was incorrectly identified as the director of the University of California, Berkeley's Center for Extreme Ultraviolet Astronomy. Bowyer was the founding director of the center and was succeeded by Roger Malina, who became acting director in 1994 and is now director. Malina is, with Bowyer, a principal investigator of the National Aeronautics and Space Administration's EUVE (Extreme Ultraviolet Explorer) mission.



## If time is money, our 5-minute Rapid DNA Ligation Kit can save you a fortune.

How would you spend a fortune in free time? Publishing faster? Gathering more data for your next grant? Our Rapid Ligation Kit contains specially formulated T4 DNA ligase plus an exclusive rapid buffer to guarantee blunt- or sticky-end ligations *in just five minutes*. Without sacrificing transformation efficiencies! So, you can ligate and transform one day, pick colonies the next.

Enjoy a wealth of free time by cutting a day from your cloning procedures. Try our Rapid Ligation Kit risk-free. We guarantee it will perform as promised or we will refund your purchase price. Contact your local representative for more information about the Rapid DNA Ligation Kit, *another innovative product from Boehringer Mannheim*.



Circle No. 17 on Readers' Service Card