LETTERS

All ears

A prominent tropical biologist describes how "the socioeconomics of farming" apply to "carbon sequestration through forest regeneration." "The cooperation of many institutions" is said to be needed for the success of the United Nations' "Forest Resources Assessment 2000 Project." Researchers discuss efforts to sequence the genome of corn and other grains. (Right, the big three: wheat, rice, and corn). And the U.S. National Research Council is said to have open meetings most of the time.

The Carbon Crop

Anne Simon Moffat's spotlight on carbon sequestration through forest regeneration (Research News, 18 July, p. 315) is most welcome, but needs explicit reference to a key driver in the carbon ecosystem: paying for it. Carbon sequestration through forest or peat restoration is simply growing a carbon crop. The socioeconomics of farming apply. If carbon is to be sequestered massively and permanently through the restoration of forests, a process both biologically straightforward and well understood for decades, then someone has to buy the crop. We must close the sociopolitical loop and internalize environmental costs—the polluter pays.

Those of us structuring carbon sequestration projects hope that the U.S. government's role in Kyoto, Japan, in December 1997 will achieve a market force for the carbon crop. We already have the technology, the protocols, and the will to crank up massive mitigative regeneration of tropical and mid-latitude forests.

A carbon generator can lower its impact by buying a virtual or real mechanical scrubber, or it can buy a green scrubber, that is, regenerate forest.

Why bother with trees? The sequestered green carbon plays an enormous "other" role besides hauling the carbon out of the air. Wildlands and tree-rich agroecosystems generate an array of goods and services—from water control to ecotourism, biodiversity prospecting, education, orange juice, carbon parked in valuable furniture, and more—and the storage of up to several hundred metric tons of carbon per hectare. The payment for the carbon scrubbing service achieved through forest restoration and the establishment of woody plantations can be the capital investment that sets the living factory in place. Later, the other goods and services may well generate sufficient income for maintenance and favorable competition with other crops that store less carbon.

There is also a second, hidden process. The paying polluter wants an assurance that the purchased carbon will stay put. The wildland biodiversity and ecosystem development industry is that assurance.

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Global Information on Tropical Forests

To deal with the many international problems related to tropical forests, policy-makers require reliable information about forest status and trends. Scientists also require such information to develop, test, and validate models of global phenomena that contribute to enhanced understanding and solutions to global problems. This information typically comes from inventories of forest resources, including measures of the extent and distribution of forest cover, patterns and rates of land-cover change, and forest biomass and species composition. The Food and Agriculture Organization (FAO) of the United Nations (*1*) provides such information in a globally consistent manner.

The FAO Forest Resources Assessment 1990 Project analyzed the status and trends for tropical forests in 143 developing nations for the period 1980 to 1990 (*2*, *3*). The 1990 project cooperated with numerous institutions in developing and developed nations to build a global database for forest area, biomass, tree species, and rates of deforestation and degradation (*4*). The analysis used a