Letters

Timber Management

Constance Holden (News and Comment, 2 Apr., p. 36) presents one of the better balanced brief accounts of the issues involved in recent congressional hearings on timber management in the national forests. But she is perhaps more kind to S.2926 (the Randolph-Brown bill) than close analysis warrants, for the bill does little to obviate the "anachronism which no longer serves the public interest" inherent in the Organic Act of 1897. The detailed silvicultural prescriptions written into S.2926 are inapplicable over the wide diversity of forest types found in the national forests of the East. Section 7(a) of the bill provides "that uneven-aged forest management primarily implemented by selection cutting shall be used in the eastern mixed hardwood forests." The implication of this section is that even-aged management poses hazards to the forests but that uneven-aged management does not. The deteriorated condition of most of the eastern mixed hardwood forests is a result of widespread selection of the largest and best trees, which has left inferior individual trees and less valuable species to reproduce. Areas of mixed hardwood that were clear-cut in the Bent Creek Experimental Forest in North Carolina in the 1930's (as demonstrations of what were then considered undesirable practices) have regenerated into superior mixed hardwood stands, whereas selectively cut stands in the same forest have failed to regenerate adequately in quantity or in quality.

Forest land use (*1*) is an issue vital to all Americans and deserves careful study rather than sloganeering. Holden has made an important contribution by calling attention to this point.

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References

1. M. Clawson, *Forest for Whom and for What?* (Johns Hopkins Press, Baltimore, 1975).

Natural Rubber Production

To paraphrase Arthur M. Bueche (Editorial, 12 Mar., p. 1007), it is indeed "ironic that in the bicentennial year of our Declaration of *Independence*," we are still *dependent* on foreign nations for our natural rubber supply. Despite Bueche's statement to the contrary, the United States has not yet achieved "virtually complete rubber independence." We still import 800,000 tons of natural rubber annually.

Bueche does not mention the guayule plant *Parthenium argentatum*, a rather inconspicuous small shrub that grows in the Chihuahuan Desert in Texas and Mexico. This plant has been a limited source of natural rubber for nearly 100 years and has been exploited and improved by the Mexicans to the point where it can supply natural rubber of a quality equal to the best hevea rubber from the Far East.

During World War II, many U.S. scientists worked on a program to increase our natural rubber supply by growing the guayule plant. Named the Emergency Rubber Project, it started with a small guayule nursery, 23,000 pounds of seed, and about 700 acres of plantation in the vicinity of Salinas, California. By 1944, it had expanded to 2,000 acres of nurseries, 32,000 acres of plantation, and two rubber extraction mills and was sufficiently successful that Congress authorized the plantation's expansion to 500,000 acres. The entire program was a fine example of a research-and-action team cooperating under the aegis of the Department of Agriculture and the Forest Service, but it was canceled at the end of the war because of the development of synthetic rubber.

As a last word, many chemists who originally favored production of synthetic rather than natural rubber are now backing a guayule R & D program to fill the gap they were not, after all, able to close. Looking ahead, those of us who were involved in the original program and whose interest in the potential of this plant has been renewed by the energy crisis, believe that a joint university-government-industry program can still be an effective method of meeting our national needs. Our leaders should be aware of the possibilities of natural rubber production rather than relying on energy-consuming factories.

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McGinnies makes an excellent point. Changes in the international environment and new national priorities challenge us periodically to review past decisions. In the case of technological decisions, taking a new look at old ideas is especially important because often some new technology—frequently from an unrelated and unexpected source—may substantially change the bases on which the original decisions were made. Since great strides have been made recently in plant science, it seems to me it would be quite appropriate to conduct a cooperative university-government-industry review of the technical and economic feasibility of developing the nation's guayule resources.

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Physician Migration

In the article "Physician migration reexamined" (31 Oct. 1975, p. 439), Rosemary Stevens *et al.* present new data regarding the influx of foreign medical graduates (FMG's) to the United States, which indicate that the estimate of new arrivals has been grossly inflated. We are indebted to the authors for disclosing the misleading statistics published by the Immigration and Naturalization Service and for more precisely delineating the number of FMG's we import annually. I take issue, however, with some of the statements the authors make along the way and disagree with the implication of their conclusions. The reasons for wanting to plug the "brain drain" of physicians to the United States go far beyond the bald figures, and I am not persuaded that "measures to curb the entry of FMG's may be unnecessary."

Only one-third of the 43,000 Americans currently applying for medical school are accepted (*1*), and Medical College Admission Tests have repeatedly shown that about one-half of those re-