Letters

Mycoplasma Contamination

Tritium-labeled uridine is supplied by a number of manufacturers in the form of a "sterile aqueous" solution. On three separate occasions during the production of murine leukemia viruses by repeated harvesting of fluids from virus-producing roller-bottle cell cultures over periods of 1 week or more, I found that cultures fed [^{3}H]uridine in media developed mycoplasma infections. These cultures showed decreased cell growth, increased amounts of "debris" in their fluids, and a striking decrease in yields of virus. Cultures fed identical media without [^{3}H]uridine did not develop these characteristics. Mycoplasma were subsequently isolated directly in two out of two trials from previously unopened vials of sterile aqueous [^{3}H]uridine used in the above experiments. The contaminated compound was purchased from a large manufacturer. Isolations were made from a single lot, but a prior isolation from cell-culture fluids strongly incriminated another lot from the same manufacturer. I have not yet tested other lots from the same or other manufacturers and have not yet species-typed the isolate.

Because of the widespread use of [^{3}H]uridine in RNA studies, including those I have described for the purpose of obtaining highly purified oncornaviruses and their RNA's, investigators should be alerted to the danger of mycoplasma contamination of their labeled viruses, cells, and of their laboratories, from this compound. These findings have been related to the chairman of the Ad Hoc Committee on Radioactive and Isotopic Specifications of Labeled Compounds of the International Union of Pure and Applied Chemistry, who in turn has notified the manufacturer. Until the extent of the problem is defined, I would advise heat inactivation of sterile aqueous [^{3}H]uridine before use.

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World Food Shortage

Roger Revelle (Editorial, 14 June, p. 1135) uses as his text: "Give us this day our daily bread" in an eloquent plea for action on world grain shortages. He calls for a world food bank, modernized agriculture, and more research. He also urges reducing rates of population growth. But is there anything that can be done at once to increase world grain supplies?

If the U.S. government were to establish an educational program to avoid food waste, an increase in available food supplies could be obtained at no cost in natural resources, productive manpower, land, or environmental assets. Such a program, guided by nutrition and agriculture experts, biologists, demographers, and others, could make it possible for us to provide significant amounts of our food supplies to those starving in Africa and Asia.

In particular, government influence should be used to encourage production of exportable cereals rather than feedlot grain (over 60 percent of the grain we produce is fed to cattle, another 30 percent is exported, largely for fodder, and only 7 percent is used to feed our people). Advice should also be offered to the public about the amount of protein needed in the daily diet and the available sources—other than "feedlot meat"—thereof. There are endless ways to conserve grain if the government could be induced to act in the national and world interests and overcome the opposition of those whose "oxen" would be gored. The scientific community could supply the impetus for such a program by providing persuasive data.

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Revelle's editorial is good, as far as it goes. He proposes that it is "absolutely essential" to reduce rates of population growth and to produce more food if we are to avoid the "precipice" of mass starvation. This is quite true, but Revelle does not mention the possibility that, in order to avert disaster, we may try very hard to do *both* of the necessary things, but succeed in doing only *one*.

Almost every year, mankind produces more food than the year before. This is an area we know a lot about, and it is something everybody wants to do. Revelle makes several suggestions that might further improve the agricultural picture.

However, even if we continue to increase food production, we will still have the population problem to solve. For this, we need to bring about a rapid and very substantial drop in the world birth rate—something that we have never been able to do. We don't know how to do it, and most people seem to care very little about the problem.

At the moment, it appears that we are going to try to do both of the things Revelle suggests. What will be the probable result? Food supplies will increase modestly, but world population will increase by 100 million people each year. This is not postponing disaster; it is incubating catastrophe.

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Revelle's excellent editorial points out valid basic problems that relate to food supplies today and tomorrow. However, it overlooks the more important factor—"How do we live?"

Those in the field of agricultural research have often been guilty of overlooking the ancient phrase, "Man does not live by bread alone." The real question is not how many people the world can feed, it is how many people the world can support in a life worth living. Aspects of the high standard of living we enjoy in this country are envied by people around the world. However, many of them could care less about imitating us.

I have devoted nearly 25 years of teaching and research to increasing the food production of agricultural crops through modern soil and water conservation practices. But I have insisted that my students realize that increasing our present food supplies will only buy us time, and that time seems to be running out.

A common fallacy often promoted around the world is that mechanization of agriculture will increase production. In most of the developing countries, where labor is abundant and cheap, this is not true. Mechanization can