Bioenergetics Bulletin Prospers

A year ago the birth of *Bioenergetics Bulletin* was announced (Letters, 15 Nov. 1968). Since then, it has circulated monthly to about 250 scientists in the United States and abroad information in the areas of electron transfer, oxidative phosphorylation, photosynthesis and photosynthetic phosphorylation, associated energy linked functions, biogenesis of mitochondria and chloroplasts, and other related topics. In addition to short summaries of papers to be published, the bulletin presents informal discussions and criticism of concepts and techniques which might not be appropriate for publication in more formal journals. A Job Mart is one of the newest services.

Membership in this information exchange group may be obtained by writing to me; for those living outside the Western Hemisphere, by writing to R. B. Beechey, Shell Research, Ltd., Woodstock Agricultural Research Centre, Biochemistry Division, Sittingbourne, Kent, England.

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Indian Agriculture: Modern Methods Produce Good Harvests

T. W. Schultz of the University of Chicago (24 Jan., p. 408) believes that in order to take advantage of recent advances in agricultural science in India it will be necessary to shift the main effort to South India and the Gangetic plains.

I would like to correct this impression. For the last 7 years we have been applying the recent advances to our farm of about 25 acres near Ranchi which is not in the above areas. The rainfall is 58 inches a year, mostly in the monsoon. There are large areas in Central India with a similar climate and rainfall. For irrigation we use open wells and electric pumps. The terrain is unsuitable for tube wells. Our production now averages 5000 pounds of rice (unhusked) and 4000 pounds of wheat per acre. In addition, we take a third crop of maize and summer rice.

Many of our relations live in Kerala, a major "rice bowl" of South India, and when they visit us they say they have never seen anything like our productivity. The scope of agriculture in the plateau areas is immense and could feed the whole of India. It could be increased even further by such new but feasible methods as polythene-lined rainwater storage reservoirs and polythene dams buried underground between rocky outcrops, so as to block the percolation gap and raise the water table for open wells to function better. These areas have advantages over the traditional rice-growing lands of India —the main one being a freedom from floods.

This kind of farming is quite impossible without suitable livestock, and hence there is no need for any dietary imbalance. Results can be achieved simply by energetic application of the following well-known agricultural principles, some of which I noted in my letter published 12 January 1968.

1) Storage and utilization of monsoon rain, both surface and underground.

2) Correct and adequate fertilizers.

3) Suitable high-yielding seed.

4) Mixed farming for utilization of waste and surplus materials and production of manure and protein food.

5) Proper use of pesticides both during growth and in storage.

6) Scientific storage and crop drying equipment (this is not yet available to us).

Such methods as these and not the blind application of mechanical farming are more apt to solve the food problem of developing countries.

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Perils of Disease

In his letter (14 Nov.) O. M. Marx asks why the insides of planes returning from abroad are sprayed with an insecticide solution, which the stewardess informed him was DDT (to the public, all insecticides currently are DDT). The answer, of course, is to kill mosquitoes, especially *Anopheles gambiae*, which can carry diseases such as yellow fever and malaria into the United States (*1*). I perfer DDT to yellow fever.

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Reference

1. *DDT in Human and Veterinary Medicine*, P. Müller, Ed. (Birkhauser Verlag, Basel, 1959), vol. 2, pp. 370, 461.