The Agronomists’ Accomplishments and Opportunities for Future Contributions in the International Field

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In spite of the headaches created by our agricultural surpluses, most of the peoples of the world think that the United States is in a very enviable position. I imagine that the Ministers of Agriculture of most underdeveloped countries would be glad to change jobs with Secretary E. T. Benson and wrestle for a while with food surpluses instead of chronic shortages. Many factors have contributed to our fortunate position. I cannot enumerate them all, but I would like to point out that other countries have made, through the years, many important contributions to American agriculture. Most of our improved breeds of livestock have been imported from Western Europe. Alfalfa came from the Near East; the soybean, the second most important crop in the corn belt, came from China. Many countries have contributed genes to many of the improved varieties of wheat grown in this country. These are only a few examples of the many that might be sighted.

Plant explorers are still scouring the earth for new crops. We have recently set up several regional crop testing centers to study more thoroughly these introductions and to determine their value in different sections of the country. We are fortunate in that our farm population has had very diverse origins and these farmers have introduced into this country useful seeds and farming lore from their homes across the sea. As the natural sciences developed, first in Europe, later in the United States, many of the principles discovered were soon applied to our agriculture. The results were published in scientific journals and became freely available throughout the world. One of the most important differences between the agriculture of the highly developed and the underdeveloped countries is that, in the former, information obtained from any place in the world is promptly tested, and if found useful is soon put to use by the farmers. In most underdeveloped countries, farmers are still using practically the same methods they used a century or more ago.

Since World War II the world has shrunk. Countries formerly far away are now only a few hours away by air. As a result we are more conscious of, and more concerned about the plight of agriculture in underdeveloped countries than ever before. We are beginning to see that it is to our advantage as well as to the advantage of these countries to have their agriculture more highly developed and their economies in a sounder position. In the past decade we have extended aid to a very high proportion of these countries. This aid has taken many different forms. Some have been highly successful; others less so. We have, however, feeling that these efforts have been worthwhile should be continued, at least on the present scale, for some time to come; that investments in strengthening the economies of these countries may in the long run prove sounder than those made in additional aircraft carriers, a few more bombers or even a few more guided missiles. Investment in agricultural technology is wisely not directed to yield returns for a long time although weapons have found their way to the scrap heap.

Let us turn for a few moments now to the agricultural problems of some of the underdeveloped countries. From an agronomic point of view probably the most important problem is that of the low yields of basic food crops which are being obtained in most of these countries. The yields of corn or wheat per acre obtained in these countries are about the same as that commonly obtained on plots where these crops have been continuously without fertilizers or manure for many years or more. Cultural practices vary widely in these countries, but in this particular case, there is a feeling that the factor limiting the yields of these crops is the amount of nitrogen which the crop is able to get from the soil with this type of management. Just as we have in continuous culture experiments, the yields from year to year, giving almost total failures some years and reasonably good crops under exceptionally favorable circumstances.

This wide variation in yields from year to year presents many problems for these underdeveloped countries with their low reserves and poor transportation facilities. In extreme cases, it results in famine and widespread starvation.

As all of you know, it is easily possible to treble or quadruple the yields commonly obtained by planting check plots with good management. In fact, production in the United States is of this order. We have learned then, how to cope with such situations. The methods we have used, with such results, as may be required by the differences in soil and climate, would, I am sure, be equally effective if given a fair trial in these other countries. In many cases the improvements are not great and would be in most cases in cheaper production. We have our own experience that the unit cost of production per yields is so high that we cannot afford them. I am encouraged to increase yields in this country.