The Agronomists’ Accomplishments and Opportunities for Future Contributions in the United States

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It could go without saying that I feel highly honored to be invited to participate in this Golden Jubilee program of the American Society of Agronomy. Especially is this true since I am from outside your discipline. Yet even this fact has advantages, for I can appropriately emphasize the great importance of your accomplishments of the past half century to every American—yes, indeed, to the vital question of food adequacy for the rapidly increasing population of the world.

Dr. Bradfield already has discussed the agronomist in the world setting. I would like only to add this observation. Through most of man’s history in the world the growth of population has been negligible. If today’s world-average rate of growth had continued more than since the time of Christ, and even from a small base, man’s numbers would now be measured in the impossible figure of quadrillions rather than billions. The upturn in growth rate on a world basis has come only recently and has been related primarily to increased supplies of food. The world never has held more people than could be fed from current food supplies—and just as certainly, it never has had much less than the full number that could be fed. The means-of-subsistence, to use the old Malthusian term, has always been the prime determinant of man’s numbers. It still is today, and will be for a good many years to come.

In the half century since this Society was established, the population of our own country has doubled—a 100% increase in the lifetime of any person now 50 years old. But the larger number today is better provided with the products of the land than was half as much population when the Society of Agronomy was founded. I doubt that members of the Society have made more than small contributions to the population increase. Your contributions to food supplies are quite another matter.

In thinking about my assignment for today, I began to wonder who is an agronomist? It is a term subject to wide variation of definition. My conclusion is that it includes all concerned with scientific aspects of soils and crops—those who study soil genesis and morphology, soil physics, chemistry, and bacteriology, soil conservation, and soil and water relationships; and likewise the genetics, the physiology and the pathology of crop plants. Moreover, no one of these areas of science can be narrowly defined.

It would be foolhardy, at least for me, to undertake to list specific agronomic achievements or the individual scientists to whom they might be attributed. Any such listing of the field in the aggregate is both pleasant and easy. Agronomists have contributed a major part of food and fiber abundance—in fact to changing America from predominantly an agricultural to predominantly an industrial nation.

People do not leave the land and turn to their livelihood, however promising, unless and until supply is assured. But for a hundred years we have been turning to urban places of residence and of making a living at an almost straight line rate of half of 1% of the labor force annually. About a century ago two-thirds of American families made their livings directly on the land, and two farm families to provide farm products for themselves and for non-farm families, one non-farm family. For each of these increases, we have seen another 5% of the labor force in non-farm occupations, because the smaller proportion living on the land was sufficiently productive of farm products to the ever-increasing number of non-farm pursuits. Up until 25 years ago number of farm families continued to increase, merely grew relatively much faster. Since that time it has decreased both relatively and in absolute number until today it is almost 35% smaller than it was 100 years ago. Seven of each 8 families are now urban-based and livelihood, and no more than 8 or 9% of labor force is employed on the commercial farms which provide the food and fiber base of the nation. The Department of Agriculture has published a table that the number of persons supported by one farm has increased from four, 100 years ago, and seven, 50 years ago, to 20 today. Their figure for today acknowledge several persons, if we count as farm workers in the commercial farms producing significant produce for the non-farm population.

Others than agronomists have made significant contributions to these great overall changes, for example, stock scientists and the marine and mechanical engineers who developed our farm equipment. Nor should we overlook the new kind of farmer who has been able to transform the sciences of science and of mechanics and put them into practice. Yet none of this detracts from the least to agronomic contributions.

I do not believe we can see very clearly where we are today nor what is the road ahead unless we briefly at the road we have travelled. This is the reason for reading history, so far as it is.