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## No time for separatism

“Our cupboard is bare”; “50 percent more food needed by the year 2000”; “Agricultural productivity in the U.S. levels off” are examples of headlines reminding us daily that rapid growth of the world’s population is exceeding our ability to produce enough food to feed that population.

Left alone, this is a situation that would eventually take care of itself. If there weren’t enough food, tens of millions of people would die, the population would decrease, and the balance of nature would equilibrate the system. The human race chooses to exclude itself from this harsh balance of nature, however, and so we continually struggle to find ways to feed our burgeoning population.

I believe we can increase agricultural productivity, slow population growth, and still maintain the planet earth as a reasonably sane and pleasant place to live. But we will have to maximize development of a new technology for the twenty-first century. It is no secret that such technology requires the efforts of the best scientific minds, a financial commitment to research and development, and probably most important, scientific breakthroughs that will allow geometric improvements in food output.

Recombinant DNA and related tools of genetic engineering have probably provided us with the scientific breakthrough necessary to lay the groundwork for a new explosion in agricultural productivity. Enthusiasm for this is evidenced by financial interest on Wall Street, by industrial development of new laboratories, and by excitement on America’s university campuses. The result is a furor of activity over the details of the regulations and patents that regulate government, university, and industry interactions.

The issue that really concerns me is our preparedness to capitalize on scientific breakthroughs and the new financial R&D resources available. Agricultural scientists and administrators are famous for talking to the converted (ourselves), and industry seems to have an equal penchant for being secretive. Certainly there is a place for introspection and a place for confidentiality, but if there is really any concern for balancing population growth and food productivity, it is time to find some mechanism to set aside bickering and es-

tablish national policies that will ensure the best possible use of state, federal, and industrial research and development dollars.

We may need technological advances in irrigation and fertilization techniques, pest management, and produce development to utilize the products of this new scientific effort. We already are short of specialized scientists to staff new laboratories in genetic engineering and associated technologies. University administrators and some state and federal agencies have been predicting this crisis for years, and yet it has been almost impossible to maintain any federal support for the development of graduate student programs. The one program that did exist, the Bankhead-Jones Program of the U.S. Department of Agriculture, was continually hampered by opposition from the executive branch of the federal government and last year received no funding. Perhaps an industry voice speaking to this need might have left us in a better position to meet present needs.

We may need new educational approaches to extend developments to the field. A new variety of guayule today does not necessarily mean a new industry tomorrow.

Without joint planning by the major agricultural and biological research interests in this country, including industry, federal and state governments, and the universities, scientific inefficiency will result, leading to disappointing results.

I believe that joint planning will ensure productive use of the scientific community existing in university, state, and federal laboratories to complement industrial development. I believe the new industrial effort will fail unless it takes advantage of this tremendous resource, and such a failure would be a devastating blow to the people of the world waiting for this food and to the institutions of this country whose primary mission is the development of knowledge and the education of our people.

If we continue a separatist attitude, we can only blame ourselves for missing this opportunity. The scientific effort of American universities for the past 100 years has prepared us for this venture. I sincerely hope that we will find a way to work together to make it fruitful.