

United States Senate

MEMORANDUM

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Excerpts from remarks prepared for
delivery by Senator Hubert H. Humphrey (D., Minn.)
at National Farm Chemurgic Council luncheon,
Chicago, Ill., April 2, 1959.

NEW USES AND NEW MARKETS FOR FARM PRODUCTS

I am happy to have the opportunity to appear before this group of people who, in the past twenty years, have been instrumental in developing the science of chem^uurgy. If 20, or even 10, years ago I had used the word "chemurgy" before a general audience, I would have felt it essential to define the term. Now, due in large part to the efforts of the National Farm Chemurgic Council, almost everyone ~~is familiar with the concept~~ ^{knows that chemurgy stands for} of ~~using~~ agricultural products and by-products. ~~in industry~~

If I should launch into a full-scale technical review of new uses of agricultural products in industry before this group, I would certainly be carrying coals to Newcastle -- or, to update this old saying, should I say "corn to Commodity Credit Corporation"?

Represented here today are the industries, the manufacturers, the organizations, and the individuals who are the real experts on a wide range of possible new uses for the products of our soil.

Many of you have been real pioneers -- plunging ~~on~~ ahead by unblazed

paths, pushing always beyond the known boundaries of science. You have
in large part
been/responsible for discovering and promoting new uses and new markets
for soybeans, that miracle crop which has brought millions of ~~dollars~~
dollars into the hands of farmers and has been the foundation for
building a far-flung agricultural and industrial empire.

Four thousand years ago in China, soybeans were known for their
high nutritive values, but it wasn't until around 1937 that research into
the industrial uses of this crop led to entirely new and amazing developments.

What concerns all of us today is the possibility that we are
missing out on new discoveries that might be of tremendous significance
to all of us -- to the agricultural producers of this country whose
whose truly astounding
~~and amazing~~ efficiency has resulted from ~~science~~ a technological
explosion; to industries ~~which~~ which seek to expand into new fields; to
our ever-increasing sidewalk citizens who are the eager market for new
foods, new textiles, improved living conveniences. Our men of science
have, in these years since the end of World War II, found many of the
keys that have unlocked the secrets of plant and animal growth, brought

plant and animal diseases under control, and discovered more effective pesticides, fungicides, and the like.

Great new agricultural machines have been invented and put to use, replacing the many hands once required. These inventions have released a wealth of manpower to move into industry and science, in order to supply our expanding population's ever-growing needs and wants.

It is apparent that we are on the verge of much that is new and important in the field of chemurgy. The discoveries that have been made are the result of almost the minimum of research through both government and private industrial channels.

I am among those people -- as I am sure all of you here are also-- who believe that research in this area needs an additional push if we are to keep pace with agricultural productivity and the need for goods.

Last year, legislation to provide for such increased research was passed by the Senate following the report made by the bi-partisan Commission on Increased Use of Agricultural Products and very complete hearings before the Senate Committee on Agriculture and Forestry. I expect that some of you gentlemen here today cooperated in these

activities. I know that all of you are interested in this legislation, so I am very glad to tell you that I have this week taken ~~the necessary~~ steps to ~~get it to the full~~ expedite its ~~full~~ consideration by the full Committee on Agriculture and Forestry. It is my hope and belief that before the month is out we will get ^{underway} action/on this bill regarding expanded research on the industrial uses of agricultural products/.

Certainly I will do my utmost to achieve this!

All of us are greatly concerned about the surplus agricultural commodities that are in the hands of the government.

Some people look at the overflowing grain bins, the over-stocked storage warehouses, and throw up their hands in despair.

Farmers have suffered price-wise because the marvelous new technologies have provided them with the capacity to make their acres more productive. We are the only country in the world where this has happened. And we are the only country that would even dream of considering this wealth of abundance as something to be dreaded.

Consumers have been led to believe that the problems presented by our agricultural abundance are insoluble, that such production can only continue to be a burden to the taxpayer.

I refuse to be numbered among those fearful people.

I am proud of the productive capacity of our soil, the energy and efficiency of our farmers.

We are not presented with insoluble problems. We are presented with vast opportunities. The existence of this present surplus has provided the essential stimulus that can turn the knowledge and imagination of our scientists into the discovery of new ways to improve the life of everyone on this planet.

Our expanding agricultural capacity makes it not only possible but necessary to explore new uses ~~and~~ for industry and food and new marketing channels.

My imagination has been stirred by impending utilization discoveries. I have long felt that the story of the introduction and expansion of soybeans in this country was a model of what should happen to other possible new crops.

In ~~m~~innesota in 1939, farmers depended upon soybeans for only one-tenth of one percent of their total returns from farm marketings.

In 1958, the marketing of soybeans returned 8 percent of the gross income of Minnesota farmers.

Soybean uses were developed through applied chemurgic research. In 1937 almost no soybeans went into industrial uses; by now around one-half billion bushels of soybeans go into industry each year, and these uses are ~~increased~~ increasing. And the prices paid to producers have held up; the industrial use of this raw material has been of real benefit to the farmer.

8 Here are some of the new possibilities brought about by chemurgic research that have caught my attention.

I understand that a new kind of starch -- dialdehyde starch -- can be produced from corn starch. It can be used in the process of ~~the~~ tanning hides for leather. Also it has unusual adhesive and binding qualities. It is felt that a great number of uses for this new product will be found as soon as a more ~~an~~ economical process for its production has been developed so that processors can experiment and determine where the unique properties can be best utilized. This area of research needs just a little extra push for the benefits to be realized.

There is also a great deal of work being done on breeding high amylose corn. This variety, they tell me, will provide a far better starch for industrial uses. Ordinary corn contains about 25% of amylose starch. The plant genetecists are seeking a variety that will contain 80 percent or more amylose in order to achieve economical processing. At present their experimental varieties are testing in the range of 50 to 60 percent, so success is almost within their grasp. This, of course, has been a long-time program. Such corn, when marketed, may be expected to command a premium price. There will be no need to market this high amylose corn at less than the usual going price of corn, ~~maximum~~ I think that this is a very important point. I do not believe in pushing research on products which can be economically produced and sold only if the returns to the agricultural producer must be at non-profit ~~minimum~~ levels.

I am told that much research is going on in possible industrial uses of wheat. A new process of milling is being investigated which may result in the separation of the starch from the protein in the grain.

This separation may open up an entire realm of new uses for wheat.

The research into wheat has another angle in which I think everyone in this country would be interested. Research is being directed toward ways to maintain, or possibly increase, the use of wheat as food. If this research results in bread and pastry products that are tastier and offer greater variety, consumption is sure to increase. Of course, we are all familiar with the fact that the consumption of cereals has fallen off as a greater variety of foods has become available and as the income level of most consumers has become higher. However, nutritionists are now considering the possibility that grains may contain nutrients that are not so easily available for human use in other foods, and are taking another look at these qualities.

When you realize that if each person in this country ate just one more slice of bread each day than is eaten at present, an additional 40 ~~xxx~~ million bushels of wheat would be needed for producing this, you can readily see that this research is indeed worthwhile.

Cotton research is another which challenges the imagination. It is common knowledge that cotton cloth has lost much ground to the synthetic

fabrics for various reasons. Progress is being made in research that seeks to modify cotton both chemically and physically, yet retain cotton's native intrinsic good qualities while enhancing it with other properties that will increase its consumer acceptability. We know of some of the results to date -- wash-and-wear cotton, permanent creasing, wrinkle-proofing, added luster, flame-proofing, and that sort of thing. These improvements will go on. This research is ~~ix~~ aimed at endowing cotton with characteristics that will enable it to hold^{and expand} its market. I don't by any means feel that King Cotton is dethroned.

Research on wool is following much the same lines in order it may join the easy-care textiles. Of course, we do not at present produce in this country sufficient wool for our domestic needs. There is a real possibility, however, that if wool is made increasingly acceptable to consumers, domestic production would increase in answer to the demand, and many acres that now produce low-priced crops might ~~ix~~ profitably be turned over to the production of sheep.

As I have said, these are only a few of the impending discoveries that may bring about great changes in agriculture and industry. You will, I know, discuss in ^{scientific} detail the many, many more new uses that are in prospect.

the research projects
~~The things that~~ I have mentioned ~~are~~ only a few of ~~those~~ which I consider of challenging importance at this stage of history. I repeat ~~that I do not consider our agricultural productivity to be a curse or a permanent drawback to a prosperous agriculture.~~

But In addition to the world of new industrial uses possible for agricultural products, I think we must never for one minute turn our backs upon the primary importance of ~~ex~~ agricultural products as food and clothing.

We must not forget that even at a time when we can boast of the highest standard of living in this country we have ever had, there are great areas of unfulfilled demand for food. The Department of Agriculture in January 1959 distributed commodities from their store of surplus to five million six hundred thousand people who are welfare

clients. Certainly this shows without a shadow of doubt that there is a demand for food which is not being filled in spite of our high standard of living. Certainly this is a worthwhile use of our abundance production.

There is still a larger demand for food existing in our world.

I refer to the emerging nations whose people are pressing forward, demanding that their governments provide them with the means to achieve better lives. Here is a market that does not have hard money to purchase from us through the regular channels of trade. Here are areas of massive hunger and suffering from want of clothing, existing in the shadow of unused present and potential surpluses of food and fiber.

~~There are no reasons~~

There can be no moral, political, or economic reason for the continuation of this situation. The United States seeks friends and support among these nations; our foreign policy is directed to achieve this. Why, then, do we not use our agricultural abundance as a strong arm of our foreign policy?

For several years I have been endeavoring to encourage greater emphasis in this direction.

During the next week, I intend introducing in the Senate a bill designed to do this very thing...and do it more effectively than we are doing it now.

This proposal will be called the "Food for Peace Act", expanding, extending, and re-directing emphasis of Public Law 480.

I am sure that you are all aware of the fine work that has already been done under this law. Regretably, it has been looked upon too much as merely a means of getting rid of something we don't want.

We need to emphasize the positive role of food for peace... and the important role food can play in economic development throughout the world.

The fact that expanded U.S. exports is a more desirable way of meeting some of our agricultural problems should not be overlooked, of course. In the long run it can be less expensive...as investments in new markets now, even through concessional sales, will help protect those outlets for us in the future.

But I am sure that you agree this benefit to agriculture itself does not need to cast an unfavorable shadow upon the generosity, the human concern, the ~~profound wisdom~~ ~~expressing~~ ~~the~~ ~~our~~ willingness to share with others that our country can show to the world through the simple wisdom of using our abundance to satisfy human need, and build essential conditions for world peace.

Public Law 480, operated on a limited year-to-year basis, has enabled us to gain experience in the techniques and potentialities

of this humane use of our farm production. Studies conducted by our Senate committee on Agriculture, under my direction, as well as by Dr. John Davis, former assistant secretary of Agriculture now with the Harvard School of Business, have indicated we will need such a program for at least five years, and that we can move from \$10 to \$13 billion dollars worth of ~~xxx~~ our commodities into world channels without upsetting existing dollar markets.

On the basis of this study

My legislative proposal is the outgrowth of recommendations from these studies, from within and outside the Administration. We have studied carefully, and included many of the recommendations, from the report of American businessmen who conducted a detailed study abroad regarding use of foreign currencies obtained through these food sales, made for the ICA.

Now seems the time to mobilize public effort and support beyond this constructive approach to using our farm abundance constructively, and using it boldly as a major instrument for promoting economic development abroad, for building conditions of peace, ~~xxxxxx~~ and as a safeguard against economic warfare of the Soviet in seeking to become major supplier for many countries--with dangerous political strings attached.

I invite your study of my forthcoming proposal. It will need help and support of the business community, particularly those who understand the ramifications of international commodity trading, to get it through Congress.

The same desire that has motivated me in exploring the role of food in foreign policy has motivated you in exploring what better can be done in developing industrial uses. We need new markets, new outlets.

We need to quit being sterile in our thinking, and confine ourselves only to old arguments of the past.

We need to search for areas of agreement, and constructive approaches toward easing some of the problems in agriculture without creating more new ones.

My mind is open, and always has been, to new ideas and new suggestions. No business would long survive if it only did business as a grandfather did. The same is true in public policy. We need to adjust to the needs of our times, taking lessons from the past but having the courage to try something new in the future.

We must go on searching for new crops, for which there is potential demand; for new uses for our established crops, for new industrial products, particularly as farm by-products, and yet never neglect our continuing effort for new markets at home and abroad.

Certainly, we have plenty of problems--in and out of agriculture.

But there can be answers, too--if there is a will and a determination to find them, and to use good judgement in applying them.

I'm an optimist, not a pessimist. If we're going to toss in the sponge to the Communists, we need not worry about these present problems. We'll just have bigger ones.

But if we're going to act like Americans, live up to our tradition and heritage, and show the world we have no fear of all-out competition between democracy and communism, then we better get busy mobilizing our forces for bolder action and less complacency.

I think we can do it, if we constantly encourage new thinking, new ideas, and are not afraid to do whatever needs to be done. You can help pioneer the way.



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