Speech to

Kay County Farm and Ranch

BUSINESS SHORT COURSE

Agriculture Building Ponca City, Oklahoma

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This is graduation night. Congratulations to those who didn't flunk. You've made an enviable record in keeping up with the times by keeping on going to school to learn more. When learning stops, you're done for. You can't get by on what you knew 20 or 30 years ago, even if you knew it all then. The younger generation recognizes that fact and youngsters have speeded up their learning processes. When I was a boy, it usually took 18 or 20 years for a young fellow to get so that he knew more than his father. Nowadays average youngsters can get that way in 10 or 12 years; the brighter ones have cut that time in half. It's good to know that the older generation is still trying to keep up with the younger generation.

I understand this Farm and Ranch business short course was worked out by a committee of farmers. I'm impressed by the course of study and by the outstanding faculty that you obtained.

In looking it over, I find that you have had before you one college president, 9 people sufficiently educated to wear "doctor" as part of their names; 11 economists, 3 specialists; 6 professors; 1 accountant; 1 marketing man, 3 bankers, 5 lawyers and 1 woman. (Some, of course, fit more than one category.)

I don't know what it adds up to, with 11 economists to tell you how to farm, 1 accountant to keep track of what you grow, 1 marketing

man to sell it, 3 bankers to finance it and 5 lawyers to keep you out of trouble, one woman seems to be enough to tell you how to spend what you get for it.

And now you have a farm editor before you, because you're having a celebration. A celebration calls for a banquet. A banquet calls for a meal. Editors seldom turn down a chance at a free meal, even if we have to listen to our own speeches or even some that might be worse. You may be happy that your grades in this Short Course already are made, so that you won't have to decide whether or not this discourse is educational, [redacted].

After all the agriculture you've covered in your lectures by experts, severe limitations were placed on my topic. I couldn't cover the subjects you'd previously reviewed, because you probably know more about them than I do. The ones not covered, I don't know too much about either. However, there may be a few fringes that can be braided together for discussion. [redacted] I don't want to put myself in the situation of the self-esteemed old preacher who one Sunday morning announced to his congregation:

"Brethren and Sistern. Dis mawnin' I'm going to elucidate profoundly upon some subjects which de Lawd has touched upon but lightly!"

Since I did not have the privilege of hearing what preceding speakers had to say, I may never know whether I am stepping on their toes or swerving clear out of orbit.

I do know that agriculture itself is a fast moving business, with many frustrating contradictions, so if we don't always agree, just assume that we are looking at the subject from slightly different points of view.

Agriculture is changing rapidly. It isn't what it used to be. It won't be tomorrow what it is today.

While we zoom toward an uncertain future, we hang onto our erratic past, making the puzzling present more difficult to comprehend. We don't always understand just how we fit into such paradoxical circumstances as we find agriculture today.

Farmers are starving themselves out of business because they grow too much food;

Americans have more to eat than anybody else in the world, so half the nation has gone on a diet;

The more food we have to supply us with energy, the less energy we need to do the work we have to do;

The cheaper food gets, the more the consumers complain about how much it costs;

The more the government helps the farmer, the worse shape he finds himself in.

The more desirable farming becomes with the drudgery taken out of it, the harder it becomes to succeed as a farmer.

Many people are quite concerned about the decline in number of farmers in the United States. It is a fact, there are getting to be fewer and fewer farmers these days.

One observer said recently that one of three things would happen to present-day farmers and ranchers within the next 5 years:

1. THEY WILL STARVE OUT 2. THEY WILL REACH OUT

3. THEY WILL WORK OUT Meaning that

1. They will go out of the farming business;

2. or They will increase the size of their operations and improve their efficiency by more intensive farming;

3. or They will become part-time farmers, depending largely on non-farm income for their livelihood.

The loss of some farmers does not mean a total decline of farming, nor does it suggest a decrease in the importance of those who produce this nation's food. In fact, those farmers and stockmen who are left will become relatively more important because increasing numbers of non-farmers will depend upon fewer and fewer farmers to grow their food. Not only that, but millions of non-farmers depend upon the agricultural production of this nation for their jobs. Agriculture supplies about two-thirds of the raw materials used by American industry. Right now only about 12 percent of our total population is engaged in agricultural production but when you include farm transportation, processing, marketing and distribution, you'll find that

some 40 percent of our population is still engaged in some form of agricultural occupation. AND NEVER FORGET, EVERYBODY EATS!

Let's take a quick rundown on how farming in the future may differ from the past and the present.

Modern agriculture begins with modern planning. Time was when a farmer had to sit down and guess and figure and scheme to know what to plant. The farmer of tomorrow will do this with an electronic computer. This has been done and is being done successfully on an experimental scale. It's called linear programming, which is simply a six-bit word meaning that data about soils, markets, equipment, labor and other essential information is punched onto a special kind of calculating cards. These are then run through a rapid-fire calculating machine that instantaneously tests all sorts of combinations and turns out an answer saying which one will give the farmer the best possible odds.

The farmer of the future will have complete analysis of his soils, so that when the machine advises him to raise 1,000 or 10,000 bushels of any crop (the government willing, of course) the next step will be to order such plant foods as may be indicated for the yield desired. And a seed supply bred to fit exactly his conditions. The crops produced will have the flavor, the texture and color preferred by the farmer and his customers. The seed will be treated chemically to immunize it against diseases and systemic poisons will repel or kill harmful insects.

(7½ min)

Machines for farming in the future will be as revolutionary compared to present devices as the combine is to the grain cradle. Not long ago a leading farm equipment manufacturer (International Harvester) released pictures of an experimental tractor that looked very much like a sport model car and a combine that apparently had all the luxuries of a space ship.

Not only will the machines of the future be comfortable, beautiful and efficient, but they will work faster, better and many of them will be almost automatic. A paper prepared recently (Feb. 5, 1960) by H. C. Zeisloft, [redacted] (manager of the engine controls dept. of AC Spark Plug, a subsidiary of our biggest corporation, General Motors) for the Society of Automotive Engineers, discusses a number of farm advancements. Let's look at some of them. One is a high-powered diesel tractor to pull a gang plow at speeds up to 40 mph. An adaptation of wartime sonar is suggested to indicate hidden high-density objects, automatically signalling the way around or over.

If the earth is hard and dry, ultra-high pressure jets could be used to break up the earth and moisten it as it is plowed. A step beyond this would be seedbed preparation by turning over and homogenizing the earth by means of many ultra-high pressure needle type jets. "The basic system of jet plowing could be applied with means at hand today," said Harry C. Zeisloft.

7"

A still further advanced potentiality which he says "does not appear impractical to expect" within the next 20 years is plowing by an electrically discharged controlled explosion. A great deal of work is going on in the field of high-voltage phenomena.

It seems that soon there will be little need for a man to sit all day driving a plow, combine or other machine. He will simply lay out a pattern for operation, set the electronic controls and turn it loose. Mr. Zeisloft suggests use of a war surplus gyro compass as a basic guidance element, substituted into the power steering system. That would keep the machine going straight. A photoelectric sighting device would enable it to seek out and hold a sight on a swinging arm signal beacon to make it turn to follow desired patterns in the field.

A somewhat larger step in automatic guidance involves buried cables, radioactive pills or slugs of inert metal laid out in specific patterns. A scanner unit in the equipment would compare it with a program card, indicate turn-offs, stop positions, by-pass trails and other directions.

Other devices now available include a safety gadget to stop the machine and send a radio signal if anything goes wrong. Barring trouble, the machine will do the job, combining into one operation 2 or more of the jobs of plowing, fertilizing, planting, spraying, cultivating, turning and reversing, according to the contours of the field. Unlike a tired hired man, it won't stop for lunch and darkness will be no handicap.

The science of atomic energy may one day enable the farmer to use radioactive elements, supplying fuel for the entire field when the work is set out. It is even possible that a method may be perfected whereby the manufacturer will build enough fuel into the engine at the factory to last the life of the machine, but this probably won't be on the market before 1987. (With all that, 30 years ago, a lot of us would have been satisfied with motorized rubbertired wheelbarrows.)

Ever since primitive man cultivated his first field with a sharpened stick, the farmer has been concerned about the weather and its effect on his prosperity and diet. In the future, the concern about weather will still be with us, but we hope the farmer will be able to do something about the weather.

Already scientists have found ways to increase the amount of rainfall that may be obtained from certain clouds, but this work is still in elementary stages because nobody yet knows how to make a cloud.

Some say that not only will the weather man of the future know how to do that, but he also will be able to move the cloud where needed. Then he can release over your farm or any farm whatever amount of rainfall you and your neighbors have ordered. May we not also expect that he can get it to stop raining when you have all the water you want or need, avoiding excessive run-off and gully washing?

Erosion or crop damage by wind also may be stopped. By installing a system of improved radar (possibly to be called windar) to

detect the approach of high winds, the farmer will be able to press a button turning on a barrier of electronic rays to deflect the wind upward and away from his crops.

Our friend from GM suggests a vertical rising ducted fan for spray irrigation. If it evaporates, spray a plastic film over many acres, use a machine to blow up giant bubble, then use a flying shower head to bring in water needed.

Temperature control will be a natural accompaniment to a precipitation control system. One possible method will be to install solar heat devices for capturing and storing heat from the sun on bright days to be released over crop fields on cold days. Another method will be to convert static electricity into radiant heating that will protect a field from frost by a system of strategically-located heat broadcasting towers.

With such marvelous developments for crops, what about the future of livestock? Well, here's another bright spot on the agricultural horizon. Beef animals will be grown to suit consumer preferences for choice cuts, there'll be no tough steaks and the stockman will always make an honest dollar on every head. (One thing I regret and always will is that I was born before the invention of automatic barn cleaners.)

Some unrealistic persons have anticipated that scientists will someday be able to combine grass, water, corn and other elements into the hopper of a fabricating machine and turn out a reasonable facsimile of a beefsteak, roast or bacon, according to your tastes.

I do not deny the possibility of such a machine, but I will challenge its popularity. We may be living in an age of synthetics, but even a gullible public that accepts margarine for butter will still be satisfied only with genuine beefsteaks. The public demand will continue to be for tender quality steaks and more of them.

Crossbreeding of livestock will become an exact science. A complete analysis of the genes that a given dam or sire might possess will become a part of the pedigree, with marginal notes on which are dominant and which are recessive. By careful electronic computor calculations and consultations with experts, the progressive stockman will be able to produce an animal of whatever color, size, shape or style he desires. The forerunner of this service is now available from OSU.

The possibility of introducing characteristics of certain other animals by crossbreeding with cattle is fascinating, but unlikely. For example, the report that a Texan had crossed a bear with a Hereford to produce a Bearford that will hibernate all winter and through drouths to save costly feed is without foundation in fact. The cowboys had too much trouble getting the experimental models down out of the trees at roundup time.

However, it is possible, due to the current strong demand for skim milk, that dairy cows may be developed with built-in homogenizers, thus saving bottling plants the cost of taking out cream to give them a

big supply of skim milk to sell to city hicks. (We used to feed our skim milk to the hogs.) Cows living in air-conditioned comfort, with shower baths and parlor milking to happy tunes should be able to adapt themselves to the demands of their customers.

Whatever they may look like, there'll still be cattle on a thousand Oklahoma hills, and there doesn't seem to be any way to teach them to come in of their own accord at roundup time. The successor to the modern electric fence may be widely used to solve that problem. When a cattleman wants to bring in his stock, he'll simply throw an invisible electronic lasso out over the range and gradually close in. This device will have multiple controls so that it can be operated either from the barn or from the jet-propelled palomino helicopter that will replace the quarterhorse.

The farmstead of the future will be a paragon of convenience. The up-to-date farm already has everything that modern genius and industry has been able to devise, including several items not found in urban homes, and that is only the beginning. GENERAL ELECTRIC engineering expert predicts houses may be heated, cooled and lighted by rooftop banks of solar batteries.

In the future, when the vegetables, meat and other products are carried to the air-conditioned kitchen by the belt conveyor, the homemaker will not have to spend long hot days processing and preserving them. She will divert them into the hopper of her all-purpose food processor, set the proper controls for potatoes, cantaloupes, spinach,

or what-have-you. The machine will then automatically sort, wash, peel if needed, cook as desired, package and eject into the nearby freezer room that will seal in all vitamins, flavor and calories. This is not now on the market because no way has yet been devised to make this new machine distinguish a potato bug from an English pea.

The gadgets that will grace the farm kitchen of the future will be a housewife's dream. This culinary utopia will function when she chooses a recipe, punches buttons for designated ingredients, and sets the controls on her automatic mixing machine. Appetizing dishes of food will come out ready to eat, cooked electrically with heat. The electricity will be obtained nearly free from the atmosphere by a static-gathering machine which I am not permitted to describe in detail.

There'll be no dishwashing, because everything will be prepared in disposable utensils. Neither will there be any clothes washing or ironing. Wearing apparel will be fabricated on the farm from home-grown farm products so economically that each garment will be discarded as waste material after it has become soiled --- if it ever does. Naturally, it will be water-repellent, wrinkle-resistant, non-shrink and stainproof.

All of these conveniences will naturally give the farmer and his family more time to do the things they've always imagined they wanted to do. You can expect many changes from present old-fashioned farm

customs.

In the past, the farm family worked five days, went to town on Saturday and attended a dinner-all-day-with-singing-on-the-ground on Sunday. In the future, the farm work will take only a couple of days a week (in the busy season, that is). The 5-day weekend will become a reality.

Just as the whoop-and-holler magneto party-line telephone has become obsolete, so will today's instruments that utilize wires and monthly bills. The radio frequency which will be assigned at birth to each person will serve as his communications system. If the farm woman wants to talk to her husband down at the barn, or to her neighbor on the next ranch, she need only flash their respective frequency and begin talking. For formal conversations, of course, there will be three-dimensional personalized television. Shut-off apparatus will be provided for Papa down at the barn in case Mom talks too long, and for the visual conversation if somebody should get the wrong frequency at 2:00 a. m. The farm of the future is going to be a wonderful place to live.

These changes may not be as fanciful and imaginative as they seem at first thought. Many of them already are within the realm of practicality and others are approaching it.

Let's take a more serious turn for a moment to see just what has happened in agriculture and what some of the effects are in setting

the scene for this fantastic future I have just described.

Our agriculture has changed from an economy based largely on the production of cash crops to a livestock type of agriculture.

We have shifted from an agriculture largely independent of government to one in which the government is deeply involved. Not only acreage controls and price support programs but also public programs in support of research, education, conservation, marketing improvements, social security, farm credit, crop and livestock disease control, rural electrification, and even rural telephones.

We have changed from an agriculture of small, independent, isolated farms to a highly competitive, complex, family business type of enterprise.

We have substituted practical and scientific knowledge for much of the guesswork, habit, and "trial and error" that once determined how we farmed.

We have shifted from a predominantly rural economy to one which is highly urbanized and industrialized -- from virtual self-sufficiency on the farm to considerable dependence on others for the goods and services we need.

And we have found new power sources to relieve us from dependence on the muscles of horses, oxen, mules, and men.

//LOOK ALIVE: You can be replaced by a button!// Human energy now supplies only 3% of work energy, compared to 15% a century ago.

(20)

Animal energy (79% 100 years ago) will drop to 1%.

So while we'll do only a fifth as much work as our great-grandfather, relatively we'll do three times as much as horses, (which is what is meant by horse-sense.)

Anyway in the future, machines will supply 96% of our total work-energy.

How has all of this progress come about?

President Eisenhower answered the question in one of his farm messages to CONGRESS. He said: "The rapid changes taking place in agriculture are largely the result of a major breakthrough in agricultural science and technology. In recent years agriculture has been experiencing a veritable revolution in productivity. The scientific revolution in agriculture is irreversible and is continuing. It cannot be avoided and it need not be feared."

Agricultural research must be credited with many of the advancements. So must agricultural engineering skill and our nation's industrial know-how.

Some think that we are producing too much food. We aren't producing too much, as long as there are hungry people. We must admit that we are producing more than the world knows how to use. Early man's energy was almost completely taken up in obtaining food. It was not until man discovered fire, the wheel and the horsecollar that he was able to produce enough food to have time for other purposes. It is surplus food

that makes possible something else besides just a source of muscle power devoted to an unending task of getting more food. Only when one man can grow more food than he needs can other men devote their time to being manufacturers, businessmen, salesmen, preachers, teachers, soldiers, poets, scientists and engineers. There is little or no time for intellectual activity and entertainment until there is extra food on hand.

We have the food and our great goal is to find a way to use it to the advantage of mankind. Surplus food is not a liability but an asset, if we can accomplish this.

Now, ~~In closing~~, I'd like to say a few words about the general outlook for the farm problem. Like congressmen, I'm not going to solve it; just talk about it. Not that there is any scarcity of purported solutions. We have enough farm plans already to plow under every other one and still have a surplus. Unfortunately, most of them won't solve the problem, some can't solve it because nobody would accept them and too many plans fail to consider the many complex aspects of agriculture.

As I see it, there are three separate and distinct phases of the farm problem: The political, the sociological, the economic. The three are related and interwoven. Yet, when we try to stir them all into one farm program, we get nothing but bureaucratic hash. Imagine that you're going to have fried eggs, toast and coffee for breakfast but in order to expedite matters, you decide to cook them all in one utensil.

Whether you decide to cook them in a skillet, the toaster or the coffee pot, you're pretty apt to have a repulsive dish that will resemble none of the three dishes you had planned.

It seems to me that our basic mistake in most of our farm legislation is that we have mixed up the political, sociological and economic and tried to bake a cake to cure all evils.

First, look at agriculture from the congressman's point of view. If he's a statesman, his first thought is for the welfare of the country as a whole, which means mostly city people, and he would try to enact laws for the benefit of the majority. If he's a politician, (as most congressmen are) he will try to enact laws that will win votes for him in the next election. Since farmers are in the minority, whom will he try to please? You might consider also the appointees who hold jobs administering the various programs, and a congressman's attitude toward them. I wonder if some of our congressmen haven't forgotten about solving the farm problem as an objective and are working on the problem as a career? For some, it might be almost as sad a day if the farm problem were solved as it would be in the Pentagon if peace should break out. That's the political aspect.

Secondly, consider the sociological phase of agriculture's problmes. Traditionally, farming has been regarded as a way of life, perhaps even more so than as a way of earning a living. Farming can be and often is a most desirable way of life. Agriculture is poetic and romantic, the enjoyment of nature is exhilarating and sunrise on the farm is beautiful.

But farming is a heck-of-a-way of life if you can't make a living at it. Some 30 years ago, when the depression was on and we were having our "Back-to-the-farm" movement, the philosophy was advanced that everybody who wanted to farm should be put on a farm and kept on a farm, whether he knew how to farm or not. That philosophy was fundamental in much of our farm legislation of the 1930's and a good deal of it continues with us today. Not that it has worked out, because it hasn't. In spite of all that the government has done to keep people on the farm, the number of farmers has been cut in half. Mechanization, improved crops, better livestock, more skilful management and other advanced technology have brought about the larger farms and fewer farmers situation that prevails today. This has meant drastic readjustments. More such adaptations will be needed in the future, for more changes are ahead. Every farm program proposed involves the question: "What are you going to do with the people?" That's the sociological aspect.

Thirdly, there is the economic approach. You might prefer to call this the business side of farming. By this I mean simply the commercial phases of the agricultural industry needed to produce and market the food that our nation needs. From talking with hundreds and hundreds of farmers and agricultural leaders over a long period of time, I am convinced that this is what most of them mean when they talk about solving the farm problem. They want to get supply and

demand adjusted to the point that they can operate a sound business. Farmers and stockman seem to want to run their business on a sound economic basis without government help or interference. If they could do this, they wouldn't have the serious political and sociological problems that now exist in regard to agriculture.

In closing, Now, let's add these three things up and see what we get. We want an economic solution. We can't achieve it as an agricultural group, working on our own. So we say, let's get a law passed. Congressmen openly look worried but inwardly, they're happy, because this gives them a project to make people dependent upon their actions. So they begin working on a political solution, which probably is not an economic solution at all. Then the sociologists (meaning any group primarily concerned with welfare) go to work. They add their demands. Because they may outnumber the farmers and probably include some farmers, their demands are conceded. Eventually, a program comes out that is a sad mixture of the political, the sociological and the economic, not serving well the purposes of any. It's fried eggs, toast and coffee stewed in the oven.

Well, what is the answer? There seem to be two courses open. One is that we can continue down the road that we've been traveling. That road leads toward complete state socialism. We can just turn our agriculture over to the Washington experts and let them tell us just how to run it. If we add direct payments to farmers in order to give lower-

priced food to consumers, we won't have much farther to go. This is the course of least resistance, but it is not the American way. Yet it is the way we will go unless we call a halt to the whole business of governmental stupidity in agriculture and declare independence for farmers.

The other course is to get our thinking on straight and admit that we can't circumvent the law of supply and demand. We must admit that we can't keep just everybody in agriculture by financing him out of the federal treasury. We must admit that many politicians do not want to solve the farm problem. We must concede that displaced people need help to readjust but demand that it not be done under the guise of a farm program. We must admit defeat in trying to run our nation's farms from the massive stone buildings in Washington, D.C., and determine that America's farmers and stockmen will survive or perish by the initiative, self-reliance and business acumen of the people who run them. Then and only then will we approach a solution to our nation's farm problem.

In the meantime, we will continue to make some progress. Changes will take place in spite all that the government can do. Whether he lives on a government dole in a socialistic state or as a free and independent American, the farmer will continue to be the conserver of our water and custodian of our soil. Our nation and, perhaps, the peace of the world may depend upon his ability to produce. May the American farmer produce for the future in peace and prosperity!

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of Services Rendered at the

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This Certificate Is Presented To

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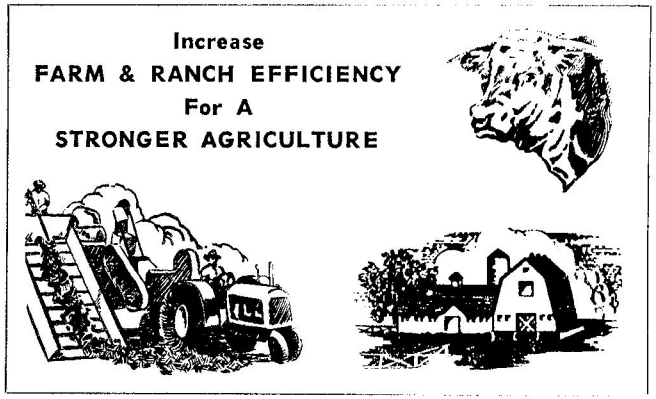

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