

Soil Conservation speech for meeting at Hobart, Oklahoma, February 27, 1953

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Recently I read a book called "The Next Million Years".

It was written by a man named Charles G. Darwin, grandson of the famous Charles G. Darwin who wrote a book called "Origin of the Species," which is generally regarded as a textbook of evolution. After I had read this book, it seemed to me that the present Charles Darwin doesn't know much more about where the human race is going than his grandfather knew about where it came from.

In a way he is in about the same fix as some of us soil conservation boosters. Sometimes it seems that we don't know too much about the beginnings of conservation and even less about how to get the job done. Sometimes, when we look at how much there is yet to be done, we may wonder if we are going to get the job done in the next million years. Yet, we know that if we don't, it won't make too much difference because unless we do save the water and the soil, we won't be here to worry about it. Our beloved and often referred-to posterity won't be here, either.

However, I'm not so much worried about the next million years as I am the next 50 years. I expect to be around and eating for that

period of time, and I got to wondering what it might be like. The best measure of the future, perhaps, is the past, so I started in by looking backwards for half a century. The past 50 years, without doubt, was the period of greatest agricultural advancement since Adam lost his job as horticulturist in the Garden of Eden. Automobiles, tractors, airplanes, telephone, telegraph, radio, television, and hundreds of other marvelous things were invented and discovered to make life better or worse, according to your tastes. It was in the last half-century that we came to recognize the lowly clod and the gentle rain as our most precious possessions.

Where a hundred years ago prospectors were crazy to find gold that would make them wealthy, today our most venturesome prospectors are those public-spirited missionaries who are devoted to the cause of soil and water conservation. Men whose ancestors wasted land, water and timber now preach the gospel of what can be accomplished with a farm full of dirt, properly watered, carefully treated and honestly farmed.

Tonight, let's not worry about the past. Let's not pause too long to look at our present sad state of affairs. We might get to feeling sorry for ourselves. Instead, let's look toward the future and speculate a little on what farming may be like in the next half century, between now and the year 1999.

We hear a great deal about the fifth plate that will be on our tables in 1975. We have heard the campaign about only three good acres

per person. There will be some other campaign in the future. But regardless of what it may be, we can't blame anybody but ourselves if folks go hungry while we are not using present knowledge to get the most food production from the acres we have.

Can we save our soil in the next million years? What can be done about it in the next 50 years? Let's abandon the inhibitions of our everyday thinking and take off for the next few minutes in a flying saucer to visualize the farmer of 1999.

Scientists are on the track of many new ways to increase the soil's output of the things we need to eat and wear. Phenomenal methods of profitable soil management will come when we figure out the workings of plant foods such as nitrogen, phosphorus, potash and the so-called trace elements. And we've barely started.

For example, at the plutonium plant in Washington, experiments are under way using 200 sheep to determine the effects of varying amounts of radioactive by-products of the atomic energy plant on vegetation which man consumes and upon grazing land. Just what this may lead to is unknown, but the possibilities of increasing crop yields by using radioactive sheep manure---- doesn't that just stimulate your imagination as to what we might discover in this atomic age?

Soon, through use of soil conditioners, some of which are now on the market, a farmer will be able to calculate exactly how much of each element is needed to produce a specified yield per acre of any crop. He will be able to rearrange the soil structure and by adding the proper plant foods, seasoned to taste with vitamins and hormones, make the poorest land blossom like a rose. That will give some Oklahomans a distinct advantage over farmers living where land already is so good it can't be improved upon.

Through use of chemicals now being developed, there will be ways to treat the soil so that weeds will not even germinate, while favorable insects and desirable plants will be stimulated. The humble earthworm will work harder than ever to replenish the earth.

Of course, there is the possibility that through the science of hydroponics, crops can be grown on a large scale without soil. However, application of this method may be confined mainly to the health resorts that will be established in the polar regions, and on space stations in the stratosphere where fresh vegetables will be in demand by interplanetary travelers.

The plants and crops to be grown 50 years from now will be quite different from those now grown. It is doubtful if any crops now grown will be left then. They will have given place to superior sorts of all kinds, much more productive and nutritious so that the growing

population of the earth will be well fed. It is conceivable that by then our astute politicians will have set up a Point Four program for other planets, to help dispose of our surplus and to take care of the politicians' brothers-in-law. The remarkable thing about this program will be the fact that its cost will be shared by other nations and not paid for by the United States alone.

It is safe to predict that folks will not stop eating in the next 50 years, nor will their nature change to the extent of relishing their food in tiny pellets. Service men who have tried a diet of dried eggs, dehydrated milk and other concentrates have expressed a definite lack of enthusiasm for them.

Although it is possible to compress the same chemical and food elements contained in a beefsteak into a single synthetic bite-size crunchy, there is no likelihood that a satisfactory substitute will be found for the enjoyment of cutting into a tender, tasty sirloin steak, broiled to taste.

As the science of plant breeding moves forward, numerous plants from around the world and even from outer reaches of the universe will be introduced and utilized. Recent successes in crossing grass varieties with grain sorghums and wheat to yield superior sorts are indicative of what is yet to come. A new hybrid grain sorghum, due within the next 10 years, will grow a short type suitable for easy machine

harvest when grain is wanted and a tall, leafy plant when forage or ensilage is desired.

Each farmer will have a complete analysis of all characteristics of his soil, and when he decides he wants to raise 1,000 or so bushels of any crop, he will simply call a cabinet meeting. His cabinet will consist of the agricultural experts assigned to his farm.

We will have advanced to the point that each farm will have its complete corps of advisors, economists and technicians, so that they won't waste time going from one farm to another. Each farmer will have his own extension agent, his own soil conservation technician, his own PMA man to figure out any subsidies due him, a commodity credit man to keep him closely advised on price supports and other financial manipulations, while the Bureau of Agricultural Economics will have a corps of statisticians to keep track of what he grows and sells.

Naturally, these men and their assistants will have to be co-ordinated, so each group of farms will have an expediter and at higher levels there will be efficiency experts, bureau chiefs and numerous other folks who can't otherwise earn a living. This will take care of any possible labor surplus that might result from the technological advancements of agriculture.

So, when a farmer-of-the-future decides how much he wants to grow of a crop, his cabinet calculates the number of acres needed,

checks the soil record on the chosen field, orders such plant foods as may be indicated, and then orders a seed supply bred to fit exactly these conditions. It also will have the flavor, texture and color preferred by the farmer or his customers.

Of course, before planting the seed will be treated chemically to immunize it against disease and instill a systemic poison so that any harmful insects will be immediately repelled or killed.

All of these operations will be carried on by machines as revolutionary compared to our present devices as the combine is to the grain cradle. There will be no necessity for a man to sit all day driving a plow or a cotton harvester. He will simply lay out a pattern for operation of the machine, set the electronic directional controls, and turn it loose. A safety gadget will automatically stop the machine and send a signal by wrist-radio if anything goes wrong. The machine will do the rest, up hill and down, plowing, planting, cultivating or harvesting, 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.

Even refueling won't be a problem, because the science of atomic energy will enable the farmer to make use of whatever radioactive elements may exist in abundance in his locality. The small volume of fuel needed will be supplied for the entire field when the work is set out. It is even possible that a method may be perfected whereby the manu-

facturer 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 2015 or 2020.

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 will still be there, but 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 its most elementary stages. The amount of moisture that falls as rain or snow is only a small fraction of the total that passes over any given area, but nobody yet knows how to make a cloud that can be seeded with silver iodide nuclear particles to stimulate natural rain-making conditions and induce precipitation.

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 whatever amount of rainfall you and your neighbors have ordered.

It won't do much good to be able to make it rain, though, unless you can get it to stop raining when you have all the water you want or need. That, too, is coming. Hazardous blizzards and gully-washing cloudbursts

will be read of only in the history books. Even when most of an area wants a rain, an individual farmer-of-the-future will be able to have it bypass his farm if he gives notice to the weather modification service. That way he won't lose a hay crop or miss a fishing trip.

Erosion or crop damage by wind also will 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 cosmic rays that will deflect the wind upward and away from his crops. If he happens to be away from home, he will be able to turn on the barrier by radio, so even unexpected storms can be nullified.

Temperature control will be a natural accompaniment to this system, with two possible ways appearing. One will be to install devices for capturing and storing the solar rays on bright days to be released on cold days. The other 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.

Some time ago, one Oklahoman, Probably a Democrat, suggested that we irrigate the Southern Great Plains by building mammoth concrete aqueducts to bring water from the Great Lakes. He had in mind that the top could be used as a superhighway to Chicago, while parallel conduits would convey power, communications and beverages.

One can see possibilities in such a suggestion, but it is not likely to be built. The reason is that irrigation will become obsolete before the Democrats get back into the White House, due to the aforementioned modifications in the weather. The present battle between agriculture, industry and municipalities for rights to water resources will be settled by the simple process of scientists being able to deliver rain in any amount when and where needed.

With these marvelous developments, 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.

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. We do not deny the possibility of such a machine, but as noted earlier, we will challenge its popularity. The next 50 years may become the age of synthetics, but even a gullible public that will accept margarine for butter will still be satisfied only with genuine beefsteaks. The public demand here will be for tender quality 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 calculations and consultations with his cabinet of advisors, the progressive stockman will be able to produce an animal of whatever color, size, shape or style he desires.

There will be two great schools of thought on this subject. One will be those who adhere to the present idea of a "breed of livestock", developed through careful selection of similar types over a period of several generations.

The other will be those stockmen who regard themselves very much as manufacturers, assembling a unit of beefsteaks or pot roasts. These will compile their formula or blueprint for a pedigree, guarding it closely as a trade secret, so they may turn out a quality product for the supersonic interplanetary rocket ship trade.

This will be possible by applying methods already far along in experimentation and practice. When the desirable parents of a certain type of beef cattle offspring are selected, it will be possible by artificial insemination and ova transplantation to produce an entire herd of calves from these same two parents within a year.

The possibility of introducing characteristics of certain other animals by crossbreeding with cattle is fascinating, but that may not occur in the foreseeable future. For example, the report that a Texan had

crossed a bear with a Hereford to produce a Bearford that will hibernate all winter and save costly feed is without foundation in fact.

So is the story of the fellow who crossed a Guernsey cow with a camel to produce a Cowmel, an animal that would store feed in her hump during lush seasons and need to be milked only once a week.

However, it is possible, due to the current strong demand for skim milk, that dairy cows may be developed that will have built-in homogenizers, so there will be no cream or butterfat in the milk sold to the public, thus saving milk plants the cost of taking it out.

Like the short-lived wingless chicken of a few years back, the legless beef cow might become a reality but the added problem of installing endless belts in pastures so the animals could graze would offset any advantages that might seem to exist.

There is one other possibility, however, that may have merit. That is, to cross the Oklahoma Angus with a giraffe to obtain a long neck. This could be useful in the future, so the animal could see its way to water while grazing in the lush pastures that will be growing on the prairies in those days. And instead of the plain black coat of the present Angus, a polka-dot effect might be obtained that would be in great demand for making leopard-skin seat covers for rocket ships.

Whatever they may look like, there'll still be cattle on a thousand

hills 50 years from now, and there doesn't seem to be any way to teach them to come in of their own accord at roundup time.

However, the successor to the modern electric fence will be widely used to solve that problem. When a cattleman wants to bring in his stock (to market them or milk them), 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 of 1953 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.

In the future, when the vegetables, meat and other products are carried to the kitchen by the belt conveyor, the homemaker will not have to spend days processing and preserving them. She will have only to place them in the hopper of her all-purpose food processor, set the proper controls for potatoes, cantaloups, 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 on the market now because no way has yet been devised to make the machine distinguish a potato bug from a potato.

The gadgets that will grace the farm kitchen of the future will be a housewife's dream. Some of them will be so utterly useless that the little woman wouldn't even buy one from a hawker at the state fair. This culinary utopia will function by placing a recipe and designated ingredients around a mixing machine, setting the controls and then watching the appetizing dishes of food come out ready to eat. It will be cooked electrically without heat, and the electricity will be obtained from the atmosphere by a static-gathering machine which is still secret and cannot be described here.

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 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. Many changes from present old-fashioned farm customs will be noted.

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. Mom's home demonstration, quilting and conversation club can meet three times a week, and who knows, they might even get a quilt quilted. Farm work will no longer interfere with Pop's attendance at the Spit-and-Whittle club or with Junior's basketball games.

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. He will be able to use it direct within a reasonable distance, or by relay stations to talk to Japan. That is, providing he speaks Japanese.

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 so that each may see who he is talking to. It may be assumed that a 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 small fry of the future will enjoy farm life immensely. The chores that occupied the valuable time of their forebears either will be unnecessary or will be done automatically by machine. Neither will the

youngsters have to go to school, except to play basketball, take examinations or to get acquainted with the good-looker from the next township. This will be possible because the lessons will be learned at night. As the pupil goes to bed, he will plug a tiny device into his ear, turn on a recording of the geography or history lesson and go to sleep. Repetition of the lesson during the night will fix the facts and methods perfectly in his mind so that only honor roll grades may be seen on his report card. The later he sleeps, the more he learns.

This same method may be used by his father for studying improved farming methods, except that he will have an additional gadget to scan pages of his favorite farm magazine and read them to him. This will be especially helpful when he is reading highly technical material, because it also will explain the big words scientists like to use.

How will you keep such well-informed persons busy and happy on a farm that takes so little labor to operate? Well, there won't be any place on such a farm for a person who isn't lazy. This opens up a whole new world of opportunity for today's hired men. And also for a lot of newspaper people. To a person who is naturally lazy, happiness on such a farm won't be a problem.

History shows that a large proportion of our greatest leaders have been men who grew up on the farm. One of the encouraging aspects of the future is that farm boys will have more time to be leaders. Be-

sides helping to solve farm problems, the farm organizations they belong to may create a few, just for the fun of it. In addition to services performed for active farmers, the farm organizations will provide outlet for the social energies of the farm woman and will maintain an old folks home for retired farmers so they can spend the 50 or 60 years of their retirement playing golf and reminiscing over the days when farming was hard work.

The farm of the future is going to be a wonderful place to live. The trouble is that most of us here tonight were born 30 or 40 years too soon. The farmer of the future is going to be the man the world will look up to and respect, because he will be recognized as the producer of food, the conserver of water, the custodian of our soil. He will be the envy of his urban neighbors, because undoubtedly it will be more difficult to get a place on the farm in the future than it is now. Only the most ambitious, best qualified youngsters will be able to go into farming. The lesser ones will have to resort to business, manufacturing, medicine or even become lawyers, as alternate vocational choices.

These and many other wonderful things can come about, for your sons and mine, if we get busy and speed up the job of soil conservation. At the rate we are going, we probably will get a complete job of conservation done in the next million years. But if the job is worth doing, it is worth doing in the next 50 years---even the next 10 years. The best time to

begin on any farm is this year. The farmer of the future has a great prospect before him if the farmer of today will be a full-fledged conservation farmer.