



FIFTY YEARS ON A ONE-FAMILY FARM IN CENTRAL KANSAS

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[The first installment of this article appeared in the Autumn, 1979, issue.]

IV. MORE CHANGES—THE DEPRESSION AND THE WAR

THE YEAR 1929 has left an ominous ring in the ears of everybody who lived and worked then. It was the year of the big stock market crash. The whole thing happened, so to say, behind our backs, meaning that the average farmer had little or nothing to do with what went on in Wall Street. The intricacies of high finance, capital stocks, banking and economy in general, seemed far removed from our world. Of course, the papers carried front-page stories of a catastrophic decline in the value of corporate stocks, of numerous bank failures, of brokers committing suicide. Even that seemed far away and without connection with farm life. Very few farmers owned corporate stock and our bank stayed open. We had experience with losses at the farm. Now the

Title-page photo: Erich Fruehauf, center, poses with his family for a 1958 group photograph. In this installment of his story he writes that the death of his wife, Hedwig Hupe Fruehauf, left, in 1963, meant coping with problems he had never seriously envisioned. Adalbert stands at his father's left. The daughters, left to right are: Elenora, Hildegard, and Anneliese.

money handlers had hard times for a change, so what?

But by and by the consequences of the crash were felt even in the smallest hamlet, on every farm, underlining the fact that farming is very much a part of the economic network and not apart from it. Suddenly there was no credit to be had. The happy banker who was always anxious to extend credit, often unwisely, without sufficient collateral, became the most tight-fisted man in town. Foreclosures on farm mortgages became more numerous than bank failures. It seemed now that everybody, from the offices in Wall Street on down, had lived in a dreamland of easy credit, played the stock market on credit, bought anything conceivable on credit. Soon manufacturing plants closed, unemployment soared. And as the farmer, like everybody else, began to buy only the most necessary things for cash, the falling demand idled many more and affected the small merchant in the prairie villages just as severely as the large concerns. Dealings in agricultural products on the Board of Trade followed the downward trend, influenced by the lack of credit and the uncertainty as to what the future

held. At the local level prices kept sliding down from day to day until, at the bottom of the depression, I sold wheat for 30 cents per bushel and received 9 cents for a dozen eggs and 9 cents for a pound of butterfat. The spiral of depression and inflation, of oversupply on farm products and shrinking demand seemed to have no end. Now we were well aware of what had happened. The terrible cost of World War I, evidenced by the interest service on war bonds, combined with fewer jobs in the war industries, unsound business practices, the wild speculations of the Roaring Twenties finally led to the collapse of the economy.

On the farms in Kansas we were threatened by a second, very special disaster. With good reason the news commentators have coined the term of the "Dirty Thirties" for the following years. This was no allusion to moral depravity. These years were quite literally as dirty as can be. We had a different name for a natural phenomenon. Here we spoke of dust storms or of "black blizzards." All the bad effects of the government's demand for all-out wheat production under the motto: "food will win the peace," the new tools of mechanized farming and below average rainfall in the semi-arid western reaches of the wheat belt combined to create an unfortunate situation, never before experienced here on such a grand scale.

In western Kansas, farmers had enjoyed a few years of sufficient rainfall. Crop yields on the virgin soil were so good that it was easy to forget the warnings of weather experts that dryland farming west of the 100th principal meridian would be too risky to be practical. As good patriots and good businessmen they plowed up every acre of grassland when Washington asked for stepped up wheat production. The result was an expanse of bare, plowed soil in the treeless country, from horizon to horizon. The rains didn't materialize but the prairie winds, a natural phenomenon in this part of the country, increased in strength and frequency. The drifting powder-dry sand formed dunes while the fine dust rose high into the air. Carried by high winds such giant dust clouds traveled as far as Chicago. Here at home I could occasionally see such a cloud arrive. Growing up from the horizon it gave the impression of a dark-brown wall of vertical columns which approached rapidly. Soon it blotched out the sun, leaving the country in an eerie dusk reminiscent of a total eclipse of the sun.

In a short time the fine, choking dust obscured everything.

Once I was on the road in my car to help a friend in an emergency situation with a cow, when a fast moving dust cloud surprised me. It became so dense that it swallowed the headlight beams. Visibility became less than the distance from the driver's seat to the radiator. The road was invisible. When I could tell no more whether I was headed down the road or toward the ditch there was nothing I could do but stop and wait. An hour later it got light enough so that I could carefully proceed to my destination.

The dust entered our houses through the finest cracks around doors and windows and through keyholes. It settled everywhere. Housewives hung wet sheets inside doors and windows to trap the dust but could never completely control it. Nostrils and eyes of our cattle were encrusted with mud as all vegetation carried a thin layer of the ever present dust. A rabbit running through the pasture stirred up a trail of dust behind it similar to the vapor trail of a jet plane in the sky.

In the West where there were neither trees nor vegetation on the ground to slow down the wind, the rolling sand filled in roads, piled dunes into the fence rows, buried implements in the fields. The whole wheat belt, from Canada to the Gulf coast, has not a single mountain range running in a east-west direction, capable of breaking the force of the prevailing north and south winds. The native sod was a very efficient protection against wind erosion, even though frequent prairie fires destroyed young trees and bushes. Now that the plow had destroyed the sod, there was nothing left to hold the loose alluvial soil. Here in Stafford County the danger was not so acute because we had diversified crops and livestock where stubble, feed crops and pastures kept part of the land protected. But we were scared by the prospect that a spreading desert might overrun even our homes.

Many farmers of western Kansas and Oklahoma left, seeking a new existence farther east or in California. Those remaining faced the danger of dust pneumonia. Farm land sold for \$7 to \$10 per acre. Speculating buyers, who could afford to wait a few years, became rich when the former waste land eventually came back into production.

All in all, agriculture in Kansas in the early

Thirties was in its worst shape in the short history of the State. The disaster was so widespread, involving several States, that no single farmer could hope to cope with it. Only concerted action on the Federal level promised any hope. Herbert Hoover had initiated a "Farm Board" and remedial legislation. The general dissatisfaction swept his administration out of office. In 1933 Franklin Delano Roosevelt took charge in the White House with a flurry of activity and unbounded optimism, enthusiasm and self-assurance. Even though he was faced with a depression in industry and agriculture at the same time, the country welcomed action, any action, that would bring a change for the better. This was no time for well-reasoned long-term policies. People were broke, without work, desperate. Pragmatic stop-gap measures were needed and a group of dreamers and charlatans among his advisers had a chance, as never before, to try all sorts of schemes and pet solutions on a nation in deep trouble.

Whatever the problems in other sectors of the economy were, the vital problem of the wheat farmer was overproduction. The big demand for wheat which economists and politicians had envisioned as one of the effects of W.W.I. had not materialized in a Europe that was impoverished by war and unable to secure credits for large purchases. The costs of the war had made both victor and vanquished losers. The United States, fighting for an ideology, wanted no territorial gains, while her allies extracted reparations from Germany which left that country bankrupt.

Consequently the farmers' granaries and the commercial elevators were bulging with wheat. In a short time the price of wheat dropped far below the cost of production. Many small farmers were forced out of business and into the cities where they swelled the ranks of the unemployed.

Those remaining knew only that the wheat they sold did not cover expenses. What else could they do but plant more acres to wheat than in the year before and so get a few more dollars cash for the greater number of bushels harvested. Thus they contributed to a still larger carry-over of wheat. The domestic demand is relatively stable from one year to the next. The surplus must be exported. The McNary-Haugen bill tried to accomplish this

by dumping our oversupply on the world market and giving the purchaser nations lower import tariffs for their industrial products.

The logical solution, namely to raise less wheat, only enough for the actual home consumption plus a reasonable surplus against a crop failure, was obvious, but, oh, so hard to achieve on a voluntary basis. Why should I grow voluntarily less when my neighbor was not compelled to do likewise? If he did not, then why should he profit from my sacrifice, obtain better prices while I had less to sell? In the end there would be no real reduction in the supply and the price would stay depressed. Everybody knew clearly that there wasn't the slightest hope for voluntary restraint among the many individual producers, competing against each other for a share of the market. And compulsion was unthinkable in a nation dedicated to free enterprise. What about cooperation?

There were farm organizations: the Grange, the Farmers Union, the Farm Bureau Federation and new local movements such as the Farmers Holiday Association of Reno Milo. Couldn't they organize farmers for some action beneficial to all? Not a chance. The examples set by labor organizations, to unionize the farmers were not feasible because the farmer is the most individualistic person. He was used to tackling the normal problems on the farm himself, was suspicious of outsiders and their motives. Many didn't understand the cause of low prices. "We had better prices before," they would say, "why not now? Somebody, maybe the grain dealers, is conspiring to get rich at our expense." Only a fraction of the farm operators belonged to a farm organization. It was said that it is easier to keep a handful of fleas in a hat than a bunch of farmers in an organization. The major farm organizations had their own pet programs and solutions, but did never wholeheartedly pull in one direction. Nor do all farmers within an organization have the same interests. The wheat farmer needed higher grain prices. The cattle feeder or the hog man needed low grain prices for a profitable business. But both are bona fide farmers. The Farm Bureau which practically owned the Extension Service, primarily represented the interests of large farms. Its membership was open to farm-related industries such as elevators, or the milling and baking industries. The

latter, though closely related to agriculture in general, could not be counted on as allies in a fight for higher prices.

Congress must be commended for recognizing the need for a reduction of supply, not only of wheat, but of cotton and corn as well. The domestic allotment plan of 1929, so far unpopular, was now acceptable to Ed O'Neal and the Farm Bureau. Newly developed by M. L. Wilson, legislation was introduced by Clifford Hope of Kansas and Peter Norbeck of South Dakota. It emerged as the Agricultural Adjustment Act of March 16, 1933. To be implemented by the Department of Agriculture under its new Secretary, Henry A. Wallace, it consisted of Title I, Agr. Adjustment Act, Title II, Emergency Farm Mortgage Act, and Title III, the Thomas Amendment, an inflationary monetary law. Its first administrator was George Peek. That it ever worked in practical application borders on the miraculous. Any number of the "brain trust" that Roosevelt had assembled around him, including Henry A. Wallace, the "spiritual window shopper," tried to inject their own pet theories which led to the plowing under of growing cotton and the killing of pigs. The former antagonized many farmers, while the latter produced a storm of criticism especially in the cities, though it was hard to understand, why it should be bad to destroy small hogs while it was alright to butcher large ones.

After corn and cotton, the wheat farmer was next in line for salvation by law. Chester Davis, who succeeded Peek, used the already well established organization of the Extension Service to set up farmer committees in every county. These were to handle the details of deciding how much of a general reduction in the acreage planted to wheat was to be borne by each individual farm. The farmer was paid a subsidy if he stayed within his allotment, but on the surface it was a voluntary reduction. Some farmers didn't go along on principle, never accepted any government money, but the big majority took advantage of the commodity loan feature of the program, by which they sealed their stored wheat in Wallace's "Ever Normal Granary" as security for a loan. The wheat remained the property of the farmer until he redeemed the loan when the market price rose high enough for him to realize a profit over the loan. If the wheat price stayed

below the loan rate, he could simply turn the wheat over to the government, which soon became the owner of very large quantities of grain. The surplus problem was not solved. The surplus had simply shifted from private hands into the hands of the government, where it had the same depressing effect on the market as before. To finance the price support scheme the government forced marketing agreements on the processors, under which they paid a processing tax to the government on every transaction, an expense they could pass on to the consumer. This feature was evidently unconstitutional and therefore struck down by the Supreme Court.

We were now busy measuring every acre of growing wheat on our farms and had our measurements checked by inspectors. The wheat acreage taken out of production couldn't be shifted to any other crop that was also in oversupply. All these measures helped to put a floor under wheat prices, but they never got to the root of the evil. The policy makers had the best intentions to "do" something for the farmer, but they never had the courage to tell the city consumer that he would have to put up with a slight increase in food prices which at the time were inordinately low. They rather hid the expense of the farm program in general taxes under the budget of the U.S. Department of Agriculture. Nor did they have the courage to face up to the simple fact that in the end not the *number of acres* planted to wheat was the deciding factor in the market place, but the *number of bushels* offered for sale. The two are certainly not the same, as surplus harvests continued to pile up grain in storage despite sharper acreage reductions. An acre isn't equal to a certain number of bushels, as every farmer knows. The harvest depends on the weather, obviously beyond the control of the farmer, and on other factors within his power. These he used to full advantage.

We were aware that we farmed only half as efficiently as we knew how. So we worked our smaller acreage better. We fought grasshopper infestations, employed strip farming, terracing, planted trees as shelter belts against wind erosion, all the measures suggested by the Soil Conservation Service. The acres set aside from wheat production were not allowed to grow up in weeds. They could be summer-fallowed. Supplied with the stored moisture of the sum-

Erich Fruehauf has operated a one-family farm in Stafford county for 50 years. One of the post-World War II changes he has seen is the discovery of oil in the wheat fields of the High Plains. A small well drilled on his land lasted only two years, but the royalties from it bolstered his farm income, and he came to agree that "the smell of crude oil isn't nearly as unpleasant when it comes from your own land."



mer months they could be expected to yield 50% more grain the next year than the continuously cropped acres. We plowed under alfalfa and sweet clover as green manure, whereby the nitrogen fixed by these legumes became available to the wheat plant. Finally the plant breeding facilities of the Land Grant Colleges turned out, year after year, better and higher yielding wheat varieties. So we witnessed the ridiculous picture that one branch of the government spent millions in subsidies and office salaries to hold down farm output, while a second branch provided us with the means to achieve just the opposite goal.

The only logical approach to the surplus problem, namely bushel allotments, was never even tried to this day in the United States. It would entail for the Secretary of Agriculture to establish the number of bushels needed in a given crop year for home consumption plus export demand, and allot to every farm a fair share of bushels for sale, in accordance with its production history and fertility, as was used for acreage allotments. Since neither the farmer nor the Secretary of Agriculture can foresee the weather, it is probable that many farms will

have a slightly larger harvest than the allotted, saleable bushels. Such surplus would have to be stored and sold in another year, when the harvest was not so good, or fed on the farm. A total crop failure could be cushioned by crop insurance. The food processors would have to bid on this available grain supply for their needs, whereby farmers would be assured of a reasonable return on their labor and investment. No more would we face the self-defeating situation of trying unsuccessfully to help the farmer, while not hurting the consumer. One cannot equally favor both, the producer and the consumer. The latter will have to become accustomed to the fact that he has to pay for food on the same basis of cost plus profit, as he pays for all other products in the store. Too long has the farmer been told what his supplies, machines, fuel or fertilizer cost, while he had to sell his products for whatever was offered for them. Nor can the farmer be expected to foot the bill of feeding a hungry world outside our borders. If our government feels inclined to give away wheat abroad, then it should pay the going rate for such gifts. Technically it would be much simpler and cheaper

to administer a bushel allotment. A document, similar to a checkbook would suffice, issued every crop year for the allotted number of bushels. After every sale a new balance would be entered until the allotment is used up. This sales permit would have to be returned to the AAA office before the next one is issued.

There seems to be a reluctance, bordering on horror, possessing every politician, when it comes to telling a farmer: This amount you may sell and no more, while you will receive a price for it which will pay you for your risk and your labor. It just isn't done in a free enterprise system. It smacks of socialism, when the farmer is prevented from digging his own grave by producing more than is needed. In industry the price controls the supply, while in agriculture the supply controls the price. Agriculture will always be at a disadvantage as long as this double standard exists within the same economy.

The Soil Bank Program was a slightly different approach in the endeavor to reduce the number of acres under cultivation. The government did lease certain tracts of producing farm land from the farmer, after he had seeded the land to permanent grasses as precaution against the propagation of weeds. The leases ran for several years. They were accepted on a closed bid basis so that the farmers who submitted the lowest rental demands received first consideration until the budget set aside for this purpose was exhausted. No crop production of any kind nor pasturing by farm animals was permitted on soil-bank land for the duration of the lease contract. The program was costly and not far-reaching enough to make a real dent in our overproduction.

After a time it became fashionable to speak of underconsumption rather than overproduction. "Eat more bread" campaigns failed to change the eating habits of our country. The home consumption of wheat, including seed wheat, stayed almost constant at around 500 million bushels, while the overall wheat production in the USA increased to over 2 billion bushels in 1975.

Other measures of the Roosevelt administration and the New Deal were much more successful. The bank holiday which closed all banks temporarily and forced them to get on a sound basis, while the Deposit Insurance Agency guaranteed the safety of bank deposits,

did much to instill a new sense of security in business and farming alike. Public works programs gave jobs to many unemployed. Such work crews did road construction, about as efficiently as the bow and arrow compared to fire arms. Other crews were kept busy with the construction of supposedly fly-proof outhouses for farms and the small school districts in the country. The new toilet facilities became known as "government projects," a welcome name, replacing a cruder but more concise term of the past.

I doubt that dust storms on the scale of the early Thirties will occur again, if we stick to the lessons learned at that time, when Rexford G. Tugwell remarked: "Americans have wasted their heritage in riotous farming." The shelter belts, conceived and brought into existence by US Chief Forester Ferdinand Silox began to break up the monotony of the flat country side. They constituted the practical application of Roosevelt's grandiose dream of a 100-mile wide zone of trees along the 100th Meridian from Canada to Abilene, Texas. Even on a smaller scale did the 200 million trees actually planted, play a important part in slowing down the wind and its erosive action. Combined with strip farming, alternating different crops in strips 150 to 250 feet in width, they helped to keep wind damage in Stafford County to a minimum. Land covered by vegetation or stubble will not blow away. Stubble mulch culture has also found many friends and became quite popular for the same reason. The Sandy Land Experiment Station at St. John demonstrated and recommended this system. Instead of turning the soil and burying all crop residue with plow or lister, the V-shaped and slightly inclined Noble blade severs the plant roots underground. It loosens the soil by lifting it slightly while it leaves all dead plant material on the surface. This implement is also a good means for injecting anhydrous ammonia gas into the soil, a powerful nitrogen fertilizer.

Amid all the political and economic turmoil there was also an important event on the local scene. I gained a neighbor. In 1938 Elmer Spangenberg and his wife Esther moved on the hitherto unoccupied farm across the road from my place. The young couple had started their life together in true pioneer style. Embarking in a snowstorm on their honeymoon, their car got stuck in a snowdrift south of the Rattle-

snake Creek. But help arrived soon. Red Weers, a farmer from the Seward community, came from the opposite direction and gave them a lift back to Hudson. But soon his car got stuck too. On foot they reached the nearest building, the Hill schoolhouse, three miles east of Hudson. Here the trio gained entrance through a window and spent the first night of wedded life keeping the fire in the stove going and playing the school piano. Later, on the farm, they built a two-car garage in which they lived until their new house was finished. I couldn't have wanted any better neighbors through the years, always cheerful, friendly, considerate and helpful.

WHILE all the measures mentioned before were based on hasty emergency legislation, intending to bring agriculture back to what was normal before the Depression and the destruction of much topsoil in Kansas, there was one program initiated under the Roosevelt Administration that has become a household-word throughout the land. The REA is still the best known of the alphabet soup of Agencies, Boards and Authorities of that time which has survived to our day. In every State one can find in the open country the characteristic poles and distribution lines, constructed under the aegis of the Rural Electrification Act.

Today it is hard to believe, and should be recalled more often, that up to about 1940 there was such a difference in the life style between city and country, that the city cousin looked down with pity on the farmer as a hayseed or country hick, in short, as a second class citizen because he lacked the comforts of the city. He had no electricity, and for this reason only kerosene or gasoline light, no running water, no refrigeration, no electric washing machine, waterheater, range, no indoor bath and toilet facilities, not even a simple fan, not to mention air conditioning. He still bought ice for an inefficient icebox in the kitchen, and fiddled with a battery-operated radio set. All these niceties of city life were known, of course, but unobtainable to the farmer because nobody furnished electric energy in the open country, away from the cities and towns.

Many cities had their own municipal power plants. Others were served by utilities with large generating capacity such as the Kansas

Power and Light Co., but all served cities exclusively, the larger, the better, where many customers lived close together. Only here, where no long lines were necessary, did they consider it possible to make big profits for their stockholders. No power company even dreamed of investing millions in rural lines with ensuing line loss and the headache of servicing such facilities in all sorts of weather, over often poor roads, at a price the consumer could afford.

Some farmers installed Delco systems. Here a small generator, driven by a gasoline engine, charged a set of wet cell batteries which furnished 32-volt current in the house, enough to serve a radio and several lightbulbs. Better than nothing, but a poor substitute for the unlimited power supply in the city.

Our rural Peace Church had been lighted for many years by acetylene gas. In 1938 the gas generator was so old and corroded that it appeared unsafe to operate any longer. The Church Board explored the possibility of getting electric service from the K.P. & L. Co. out of Hudson, a distance of four miles away. The conditions, however, under which such service was offered, were unacceptable. The Church would have to build four miles of line to company specifications, donate the line to the company, be responsible for the upkeep of the line and still face as high a rate per KWH as the city customer. This proposition plainly told the Church and all other interested rural households: "Please, don't bother us again."

Just then we heard, that a group of farmers in neighboring Barton County had called a meeting in Great Bend, at which the County Extension Agent would explain how the Rural Electrification Administration could help farmers to get electric service. I attended that meeting and heard that we had to form a co-operative association, with all farmers who were willing to receive service, as members. If the plan developed proved feasible, we could borrow the necessary money from the Federal Government at 2% interest, build our own distribution lines and receive electric service at cost. It sounded so good that we organized on the spot with the idea of serving two counties wheresoever the big utilities refused to operate. I was one of the charter members and served as a member of the Board of Trustees for the first 10 years of the Central Kansas

Adalbert Fruehauf, only son of Erich, is shown plowing in this photograph taken the same year he finished high school—1952. Like many young men in rural Middle America he found that net profits from agriculture were small compared to wages in the city, and he changed his mind about starting his own farm operation. When he took a job in the oil industry, his father's dream of handing the Fruehauf farm to the next generation was shattered.



Electric Co-op, the organization which emerged. It has since grown to the point where it furnishes electric service to all or parts of seven counties in Central Kansas. The necessary preparatory work and red tape took quite some time before the first pole of the first section of our project was swung in place, about two years. But on Christmas Eve of 1940 it was in Peace Church, where by special arrangement ceiling fixtures and Christmas tree lights came on for the first time. Mr. Hupe never did witness this moment. He had died earlier in the same year.

The board members had signed up all farmers living along the proposed lines as members and secured easement for anchors, where needed. It was a job that sounds easier now than it was then. After the depression a \$5.00 monthly minimum for 70 KWH on top of the expense of wiring the house according to the REA code seemed for many more money than they wished to invest. We even plotted our lines on the maps before an engineering firm took over in an expert manner. To make things more palatable, every farmer had the chance to

work at the preliminary clearing of the right-of-way for the lines. With axes and two-man crosscut saws we attacked miles of cottonwood, box elder and hedge trees during winter and spring 1939-40, for an hourly wage of 35 cents. All of us made here our first contributions to the new Social Security system. Later on, the Co-op built its own diesel generating plant west of Great Bend. From a modest beginning, when we mostly thought in terms of electric lights, and interrupted by World War II, the system now serves not only farm homes but many irrigation wells and oil field pumps.

WORLD WAR II, beginning with the Japanese air attack on Pearl Harbor, naturally affected everyone, the farmer as well as the city worker. In my neighborhood the farmers of German ancestry became understandably concerned and apprehensive, when the Government rounded up the Japanese population of the West Coast and took them to detention camps out of fear they would sympathize with, and probably aid the enemy. I am glad to recall that citizens of German background

were never openly discriminated against in Kansas. The older generation had weathered World War I against Germany as dependable and loyal citizens, and their sons had served honorably in the armed forces. There had been some superpatriots who became incensed when they heard anybody use his native German language. But now the farmers, regardless of national origin, were needed to ensure ample food supplies for America and her allies. I carried my draft card like everybody else, but was never called into active service, being over 40 years old, family father and occupied in farming, a vocation essential to the war effort.

There were none of the privations I had suffered in World War I in Bohemia. Though some things were rationed here, we always had enough to eat in Kansas. There were coupons for coffee, meat etc. but never any real shortages. Gasoline was strictly rationed for passenger cars, hardly enough to take the children to school, but in ample supply for farming. Most critical was the tire situation when rubber imports from Asia were cut off. Tires were made from reclaimed rubber. Punctures in inner tubes manufactured from artificial rubber didn't take the usual hot patches, repair patches had to be glued on with rubber cement. We drove on four tires, as no spare tires were issued. A flat tire on the road was a highly unpleasant incident without a spare tire in the trunk. Our tires wore thin with the years, even though the official speed limit on all roads was a very conservative 35 mph, designed not to save lives, but gasoline and tires. At that time I was mighty glad that I had chosen farming as my occupation. It turned out that in America, too, the farmer didn't suffer hunger.

By January 1941 all farms in the vicinity had electric service. We first wondered how we could use up all 70 kwh per month, the minimum we had signed up for, unless we turned on our lights day and night. But it didn't take long until we used more, getting accustomed to all the possibilities of electricity, as we added more and more appliances. We would have added them still faster, if the Japanese had not attacked Pearl Harbor in December 1941. We were at war. Copper, used in all appliances, was now crucial to the war effort. All civilian uses had to stand back. Nevertheless we congratulated ourselves, upon completing the first section of the electrification program so to say at the last minute.

Electrification has since changed our life style on the farm more radically than any other single thing. Our homes now stand comparison with any city home. Our wives grew rapidly accustomed to the many labor-saving devices at their command. The farmer found ever more uses for electricity in his business. There is hardly any one, who has not a well-equipped shop in which he can make emergency repairs, hardly any one, who is not able to use the electric welder for repairs and new inventions or improvements on old machines. We are apt to forget just how much we depend already on this versatile form of energy, until lightning or ice storms interrupt the service for a time and we find ourselves back in the dark ages, without light, heat and water, in worse shape than the cave dwellers.

Financially, rural electrification also has proved itself under local administration by the customers as the soundest investment the government has made among the many programs initiated under the New Deal, where frequently millions were squandered on untried schemes. The repayment rate of construction loans all over the country is excellent. Seldom has tax money done so much good without losses. As members of the Board of Trustees we signed the first note to the Government in the amount of about ¼ million dollars with a good deal of respect and worry how the repayment schedule could be met on time. Since that time many more millions have been invested in our co-op, and have been paid back. In 1975, the payment on principal of all loan agreements amounted to \$572,821 and the interest of \$304,649 was less than the taxes the co-op had to pay on its property.

In 1936 my neighbors had elected me as one of the linemen of the German Valley Telephone Co. at Hudson. There were four of us, all farmers, entrusted with the job of keeping the telephone wires where they belonged, tied to glass insulators on top of the wooden poles. None of us had any training. We learned by doing and experimenting. In addition we were expected to repair the switchboard and the telephone instruments of the subscribers, a job we did in accordance with the (tongue in cheek) German proverb, that, "If God gives a man an office, He also provides him with the necessary wisdom." The pay was very modest, commensurate with the wisdom we possessed. The work was more a service to the community

than a job. There was not enough to do for a full-time qualified employee, nor enough money to pay him, but it meant many part-time hours for me. Interruptions in service often occurred when we were very busy at home, and when it cost real effort to drop our own work and drive out on the roads, trouble-shooting. Especially the trucks used in the mushrooming oilfield activities tore down our lines frequently. Not all truckers were as considerate as the one, who patched the telephone line he had torn down, with a piece of discarded log chain. In 1950 I became Secretary of the Company with all the extra paper work of payroll, correspondence, taxes and the joy of every bureaucrat, voluminous periodic reports. As a utility under the control of the Kansas Corporation Commission, our little telephone company with less than 150 subscribers had to make the same exhaustive reports to the Commission as the Bell System with its trained office force. Only our figures were much smaller.

Going through some old correspondence one day, I found a letter from J. S. Botkin, Kansas Secretary of State, to the German Valley Telephone Co. in Hudson dated January 30, 1919 on which he had scrawled a footnote: "Better change your name, cut out the German." Thereupon a very obedient (or still scared?) Board of Directors circulated a petition to change the name to Hudson Telephone Co. When they approached Robert Hupe, one of the directors remarked; "What's the difference, German Valley or Hudson, it's the same company." Mr. Hupe replied; "Well, if there is no difference, then just leave it as it is." The petition got 14 signatures and failed. The next Secretary of State, L. J. Pettijohn, expressed on February 22, 1919 a similar narrow and discriminatory stand by writing: "It seems strange that any stockholder would object to eliminating the word 'German' from the name of this company, don't you think?" It is gratifying that similar attacks on ethnic minorities have since become rare.

A definite hardship for the farmers around Hudson was the fact that during the war Stafford County had no veterinarian. The one located at Lyons in Rice County was so overburdened with work that he often came far too late to save a valuable animal and the farmer was less than happy to get a bill for the doctor's confirmation that the cow was indeed dead. Soon word got around that I had the necessary

training in my college days, but no license to practice veterinary medicine in Kansas. I simply didn't have the heart to turn down pleas for help by my neighbors in cases where I could do some good. I was instrumental in showing that immunization of all calves against black-leg and pigs against hog cholera was a very cheap way to eliminate the heavy losses generally encountered every year by the owners. Of course, farm magazines recommended these practices, and farmers read the articles, but they had to learn the simple technique of administering the bacterins or sera. It is also a very satisfying feeling to see a milk cow, stretched out on the ground, blind and deaf, dying from milk fever, get up and walk away after an intravenous injection of calcium gluconate. Since I didn't charge for my work, I didn't get in conflict with the law. But I have spent many hours by day and by night, and in all sorts of weather around animals in trouble.

In 1943 I had the misfortune to fall while working around my hammer mill, a tractor powered machine for grinding grains for livestock feed. A compound fracture of the right arm kept me 4 weeks in the Stafford hospital. Insufficient heating and not enough qualified nurses—many had left to serve in military hospitals—made the stay there less than comfortable, but a good physician and the sulfa drugs which just then had become available for civilian use, helped me to recover. On my return home I was told that now I was director of Cemetery District Nr. 8, another honorary office, inflicted on a helpless convalescent.

AFTER the end of World War II in 1946 we had a few good years. Wheat yields were satisfactory and the price held up so that I could afford to pay off the mortgage debt on the farm. As soon as I had repaid the principal of the loan a representative of the mortgage company came and offered me more credit on the basis of a good payment record, the same company which had always seemed to stand over me, ready to foreclose. The episode illustrated again the truth that credit is gladly offered only to the man who doesn't need it.

It was good to know that peace reigned again, that a transition to normalcy was on the way, that all planning was no more dictated by the needs of war. Everywhere things began to look up. The tall steel derricks of producing oil wells in the neighborhood grew like

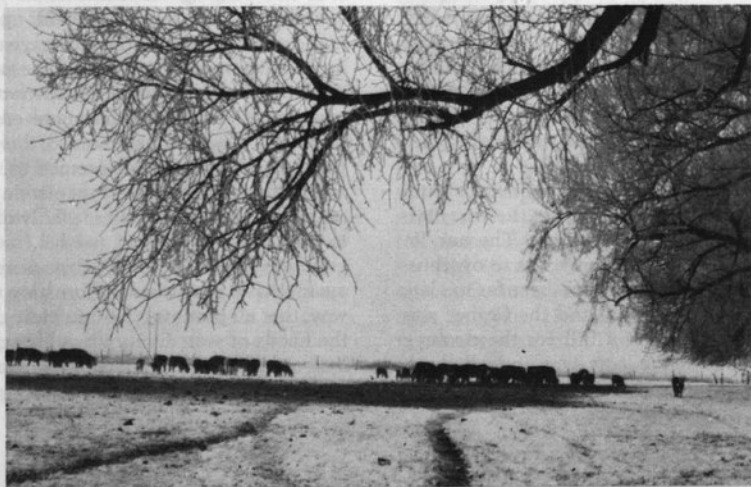
mushrooms in the wheat fields, flanked by their gathering tanks. The stillness of the night throbbled with the staccato noise of pump motors, a symphony of technology, power and progress. Some landowners became rich over night. Others, sometimes located just across the road, never shared in the so unevenly distributed subterranean bounty. After two tests were drilled on my land without showing any signs of oil, Petroleum Inc. of Wichita moved in and found oil. It was a small well, to be sure, and it lasted only two years, but the royalties from it bolstered my farm income without demanding any efforts on my part. At least I came to agree with the sentiment that the smell of crude oil isn't nearly as unpleasant when it comes from your own land.

I rented 160 acres of sandhills adjacent to my farm. They had been plowed up during the war for wheat but had turned into bare sand dunes that shifted in every wind, dunes where tractors found no footing, floundered helplessly and sank to the axles in the loose sand. After a few years of disappointing harvests which cost me money and didn't bring my landlord, C. E. Durham of Hudson, any rental income either, he wisely agreed to forget the idea of coaxing wheat from this marginal land that should never have been plowed up in the first place. I would seed the farm back to native grasses for pasture. He called it "giving it back to the

Indians." The Soil Conservation District furnished grass seed at a reduced price and the use of a special grass drill for sowing the very fine seed. Eventually the grasses took hold, the soil became firmer, held together by the grass roots, until it was possible to drive a car over places where formerly even a tractor passed only with difficulty. The wind erosion ended. The old fences had to be relocated and rebuilt to hold livestock. I rented the new pasture on a cash rent basis, increased my herd to 50 cows and 2 bulls with Polled Hereford pedigrees and got much more return from this former desert than I had ever realized with farming. A very friendly and satisfactory relationship with my landlord resulted and lasted until my retirement.

The years 1948-49 were unusual ones for me and the whole county. Instead of the normal lack of rain we entered into a wet cycle. Repeated thunderstorms dumped as much as 4 and 5 inch rains on the countryside. The soil thirstily absorbed them until it became fully saturated. Then the waters simply stayed on top of the fields forming large ponds where there shouldn't be any ponds. My farm lies in a slight natural depression into which drained all the surface water from three sides, and there it stayed. Such shallow depressions in our generally level landscape had never developed permanent outlets for rainwater to the nearest

Lack of dependable moisture is a continual worry on the High Plains. At times there are downpours which fill every low spot in the field with a pond, or the clouds sail by, month after month, without dropping rain or snow on the thirsty land. There is hardly ever a "normal" year, rather one extreme or the other. This photograph shows cattle on winter feed on the Fruehauf farm.



creek. Normal rains evaporate before they can form rivulets. Now my native pasture had become one big lake. Only a few sandy knolls stayed as islands above water. The cows reached them wading or swimming for the grass that survived here. Only on horseback or with the help of the dogs could I get them to the barn at milking time. There was an open cased water well in the pasture, left there from an oil test. I had hoped it would act as a disposal well and drain some of the lake into the groundwater table. But this rose so high that the old well began to flow as an Artesian well, contributing to the lake. A good part of my ripe wheat stood in six inches of water until the lake found an outlet to the Northeast, forming a small creek that followed roadside ditches and emptied into the Salt Marsh. Fish from there worked upstream until I could pick up sunperch in shallow water right in my wheat field. A rivulet flowed for months past my barn, the yard was pockmarked with the walled-up holes of crawfish, while muskrats, normally not part of our fauna, probed for suitable sites to begin their tunneling. Wild ducks and mudhens nested on the water, raised a brood and stayed all summer. I leased the pasture to duck hunters who put up blinds and had good shooting. Others were less sportsmanlike. Once a private airplane set down beside the clearly posted fence. A group of hunt-

ers started shooting ducks and, when confronted, said: "We go where the ducks are. Never mind the signs. If there is a fine, we pay."

Frogs multiplied in such numbers that our roads looked black at times when the young animals emerged from their breeding grounds in the roadside ditches. At night it became a popular sport to hunt bullfrogs with flashlights, as many farmers developed a taste for fried froglegs. Less comfortable were the swarms of bloodthirsty mosquitoes that rose from every shallow water puddle.

The public road on which I reached my leased pasture stood under two feet of water until the township hauled in hundreds of truck loads of dirt and raised the roadbed above water level. Of course, I was not the only one adversely affected by high water. There were low places in some roads where the water stood from fence to fence, making them impassable for two years. I remember that we carried telephone poles on our shoulders to locations where no truck could maneuver. Near Seward, there was a new creek, called the "Mystery River," where the surface water had found an outlet through sandhills and formed a tributary of the Arkansas River. Harvesting wheat that stood in six inches of water became a nightmare. Tractors, combines and trucks mired down in places that looked solid enough on the

The Erich Fruehauf farm lies in a slight natural depression and surface water drains in from three sides. When repeated thunderstorms dump as much as four or five inches of rain on the countryside, his pasture becomes a lake. In 1948-1949 there was so much rain, township crews hauled in hundreds of truckloads of dirt and raised the roadbed, pictured here, above water level.





In the late 1950's the use of silage for winter feeding of cattle became popular. Silo filling in the fall brought together the commercial operator of a high-powered field cutter, and the neighborly exchange of labor for hauling and packing the crop in the trench silo. A day's labor usually solved the problem of preparing feed for the winter for the average herd. In this photograph silage is being harvested with a field cutter.

surface while underneath there was nothing but soupy mud.

Despite all this temporary wetness our climate had not really changed. The wet interlude became only a memory in the following dry years, something to reminisce about with neighbors on a Sunday afternoon. Twenty-one years later, following the general weather cycle, a similar flood occurred, but was of shorter duration.

Kansas has a bad reputation for being the stomping ground of tornadoes, even though other states have statistically more of them every year. A fact is that I had never seen one in 30 years until in June of 1955 one of these rotating storms came uncomfortably close. It hit in the afternoon after a hailstorm, from the South, crossed the cattle pasture and passed $\frac{1}{2}$ mile from our house. A noise similar to many approaching freight trains told me that this was no ordinary storm. I could see the grayish-white funnel twisting about below a dark cloud. Around it on the ground it stirred up dust and debris in the shape of a brown flower pot. Moving slowly north, the swirling dust obscured a row of large, old cottonwood trees. After it had passed they were gone, reduced to broken pieces. A steel derrick over an oilwell stood in the path of the tornado. It emerged flat on the ground, its heavy angle iron twisted like so much paper. Green fire flashed as the storm tore up an electric power line along a blacktop road. Here the vacuum in the center of the funnel lifted about 50 ft. of the asphalt mat from the roadbed and deposited it in the ditch.

My cattle were lucky. They had been bypassed narrowly by the storm but wandered

away through the thoroughly demolished fences. I found some rabbits in the direct path of the storm which looked as if they had exploded, a ball of raw meat with the fur on the inside, a terrible reminder of the effect of the vacuum inside the funnel. Later, while working in the field, I encountered objects which the storm had carried a long way suspended in midair, then dropped. Tin cans, glass jars, a 50 ft. length of heavy drive belt from some junkpile in the country lay scattered about. Rammed two feet into the ground was a solid front bumper from a Model A Ford, a very unlikely object to be carried up.

My son Adalbert finished high school in 1952. As a start for his own enterprise he rented 266 acres of good farm land. He would have thrown himself with much more imagination and planning into his farming, hadn't he always lived under the cloud that he still had two years of military service ahead of him. With the end of the Korean War the draft calls had been slowed down, but not eliminated. Finally, under the pressure of waiting and the insecurity in all decisions, he had his name put at the head of the local draft roster, just to get his military obligation behind him. During 1955-57 he served at Fort Sill, Okla. During this time I farmed his lease holdings for him, in addition to my own farm, so that he would find his leases intact upon his return to civilian life and have accumulated some working capital.

Yet, when he came back from his military duty he had experienced the same change of mind that drove so many young men away from the farm. The net profits from farming

seemed much too small when compared to the wages paid in other occupations. He went a year to the Community Junior College at Hutchinson, then took a job in the oil industry. The pay was good, he married and dropped all aspirations of becoming a farmer. My dream of handing over my farm to the next generation was shattered.

About this time the use of silage in our winter feeding program became very popular. We learned that expensive upright silos were not necessary to produce good silage, that the same results could be had when the now available forage sorghums were chopped in the field and packed into trenches. Bulldozer operators dug them cheaply and fast into any suitable hill on the farm. There was much less waste when our cattle ate the silage out of feedbunks compared to the old method of feeding bundles. Every farmer who had experienced the joy of hauling feed shocks out of the field in winter, when they were covered with snow and ice, and frozen to the ground they stood on, appreciated handling the warm, steaming silage. Silo filling in fall became an activity that brought together the commercial operator of a high-powered field cutter, the "custom cutter," and the neighborly exchange labor for hauling and packing the crop in the trench silo. A day's labor generally solved the problem of preparing feed for the winter for the average herd. Any surplus in the silo which resulted from a better than average crop could be carried over into the next year with little deterioration. With bundle feed, cut with a corn binder and shocked in the field, this was almost impossible to achieve.

My wife died suddenly and unexpectedly in 1963. I found myself confronted with the task of keeping house in addition to farm chores, a situation which I had never seriously envisioned before, and one that wasn't easy to get used to at the outset. But I had met other problems before and solved them. I kept on operating 400 acres of cropland and pasture after I gave up some of the rented land. In 1976 I sold my cow herd, and at a public farm auction the implements and the usual accumulated odds and ends which can be classified as either antiques or junk, depending on the viewpoint of the buyer. Some small items brought good prices, while some quite usable pieces of equipment were reduced to scrap iron

on the spot by the cutting torches of scrap metal buyers. However, I kept all my shop equipment and tools, a tractor and a pick-up truck. I intend to live in the house that had been home to me for so many years. Since cropland and pasture are leased out, the garden and grove may get better care with more time to devote to them. Above all, I'll find time to do the things I always wanted to do, but had to postpone in favor of more pressing work, to read and to write. My lifelong interest in philosophy found a sudden outlet when I received the invitation to give several guest lectures at the Barton County Community Junior College at Great Bend.

V. AFTER 50 YEARS—MODERN FARMING

AFTER I have tried to describe farm life in 1926 and the farming methods in my particular corner of Kansas and how they have changed, it may be interesting to take a look at them as they are 50 years later. I notice that the sycamore trees, just as tall as the house in 1926, now stand twice as high, while the stately native elms have become victims of the Dutch elm disease. The house itself has retained its charm despite remodeling and termite attacks. The vegetable garden, once a sizable production unit, has shrunk with the size of the family when the children left home.

The transition has been as imperceptible and gradual as the growth of a tree, the tendency and direction of change never being clear. Looking back, everything seems to grow logically toward a goal, but while I was in the middle of it, it was never clearer than today's speculations on where we shall go from here. What was certain was changes. New methods or new markets were always available. They demanded our decisions as to whether they were feasible or adaptable to our particular situation, and profitable. One cannot jump at every new scheme that comes along. It may be highly praised by the starry-eyed reporters of the various farm magazines, but can easily end in disaster when applied under the wrong circumstances. One never escapes without losses when a new venture must be abandoned. Special buildings and machinery seldom lend themselves to other purposes when they prove unsuited for the initial use. Certain was always our confidence that the next year would be

better than the last, even if progress went not in a straight line toward a visible goal. We have tried everything and kept the best.

It isn't so much the change in farming methods which shaped our future, but a much more deeply reaching change in the whole concept of farming. The pioneer farmer came here for good farmland where he could put down roots, where he could raise a family in a security that seemed stronger than employment in the city. Here was a healthy surrounding close to nature, here he could apply all his strength and ingenuity, independent of the fear of losing job and livelihood when the employer decided that he didn't need his services any more.

The pioneer considered the farm primarily as a place to "make a living," and that meant to provide for the daily needs of the family in field and garden, in the orchard and the milking barn, in the chicken house and the hog pen. There were beehives for sweetening. The rifle or shotgun in the hand of the farmer didn't only protect against marauding coyotes and raccoons but furnished game for the table: jackrabbit, cottontail, pheasant, prairie chicken, ducks and geese, when their migration routes took them through Kansas. The deer we often see today were missing as long as they found no suitable cover in the open grassland.

But no farm was ever wholly self-sufficient since the Bronze Age. Even then a number of necessities of daily life were not produced on the farm. Salt, weapons, ornamental jewelry were even then procured from craftsmen through barter. Spinning and weaving, have become lost arts on the farm since the textile industry furnished cloth that was cheaper. The spinning wheel has in our lifetime changed from household tool to collector's item. The farms on the high plains were not all that isolated from the industrialized East since the railroads supplied the western frontier with modern goods. Clothing, shoes, furniture and some non-durable goods such as coffee, sugar and kerosene came from the stores. So it was necessary even for the first settler to go beyond subsistence farming, to raise a surplus of farm products over and above the need of the family. They were called "cash crops" because they supplied the money to buy the industrial products and pay taxes and doctor bills. In the course of time the accent has shifted more and

more from producing everything possible to satisfy the family needs to commercial production of cash crops for the market only.

This transition has been under way at a slow rate for 2000 years or more but has never been so noticeable as in the last 50 years in Kansas.

Today specialization has gone so far that the wheat farmer buys his eggs and dairy products, his cured hams and sausages and his dressed chicken at the store just like his city cousin. The "produce buyer" of yesterday has disappeared for there is hardly a chicken or a milk cow left on the farms. Specialized Grade A milk producers are located near large consuming centers, and broiler factories where small farms have more labor available than the cultivation of their few acres demands.

Now the accent lies on the production of the largest possible amounts of wheat, milo and beef cattle for the market. While the warning once said: "Don't put all your eggs in one basket, diversify," the opposite is now true: "Don't waste your energy on too many projects, concentrate on as few as possible but give them your full attention and capital resources and pursue them to your full capacity."

Wheat was and is the crop of first importance. It is the backbone of our economy and has made Kansas famous all over the world. But the horse and the mule are gone and so are the primitive implements which tamed the prairie, the walking plow that turned a single furrow, the reaper, the header, limited in size by the pulling power of the horse. The stranger who crosses Kansas by car still sees quite a few horses on pasture. But they are saddle horses, strictly for luxury use. They have never worn working harness. With the exception of a few genuine "cow-ponies" they are kept to be ridden in parades or for the enjoyment of teenagers on weekends. The horse's owner often lives in the city, belongs to a saddle club and spends inordinate amounts on fancy saddles and other riding gear. He perpetuates the nostalgic memory of the pioneer days, the age of the Spanish grande, of the cowboy, the pony express and the stagecoach in the same vein as the owner of antique cars or the miniature railroad enthusiast cultivates his hobby.

Instead of the faithful draft animal the tractor now reigns supreme. It has become larger, heavier, more powerful and more sophisticated. Dual wheels and 4-wheel drive ensure

better traction in the field. Hand in hand with its greater pulling power go wider and wider implements and implement combinations which allow the farmer to cover more acres per hour of operation, and to accomplish several operations in one pass over the field which, for lack of power, had to be done formerly one after the other. The implements are controlled from the tractor seat without effort by hydraulic cylinders and have become so wide that they must be folded up in sections for transport on the road. The farmer of the beginning of this century wouldn't believe his eyes, could he see his successor ride in comfort in a closed cab, out of the dust, enjoying air conditioning, radio and voice contact with his home by citizen band radio, working more land in a day under the best working conditions than his forebear could in a week. Neither would he believe his eyes could he see the dollar amounts at the bottom line of repair and fuel bills.

No more does the combine operator stand between the noise of the tractor motor in front of him and the combine motor behind him while steering the tractor with one hand and controlling the combine platform by turning a crank or working electric switches with the other hand, constantly looking forward and back while swallowing the dust of both machines. The grain hauler doesn't know any more what it is to scoop every harvested bushel of wheat into the home granary. He (or more often it is "she," the farmer's wife) rides a big truck, holding anywhere between 200 and 500 bushels. At the elevator she empties the load by hydraulic lift into the dump, never leaving her seat, and does some knitting while waiting in the field for the next load. Our wheat fields do not look much different now from what they looked fifty years ago, yet yield, quality, purity and uniformity of the crop have improved considerably.

It would be a big surprise to the old-timer to find no cornfield in this neighborhood, but in its place a crop so new that he would have to ask the name for it. The grain sorghum, generally called "milo," which covers a large acreage with its red or yellow seedheads, simply didn't exist yet in his days. Here is a plant extremely well suited to our soil and climate. In contrast to the corn the pioneers raised with difficulty and little success 50 years ago, milo is

consumed on the producing farm only in small quantities in livestock rations. The bulk goes as cash crop into market channels and to the numerous feedlots in Kansas. Since the yellow endosperm hybrid milo varieties were introduced, the grain sorghum compares favorably with corn as feed for cattle, hogs and poultry.

Even the "elevator" of yesteryear has undergone many changes. The small wooden frame construction, located close to the railroad track, has given way to rows of tall concrete storage tanks with many times the capacity of the original installation, capable of handling, drying and fumigating the larger crops of today, with scales that can weigh the biggest semi-trailer loads. The traveller in Kansas cannot help but notice those shining white structures towering over the adjacent villages, the "castles or cathedrales of the prairie," so characteristic of the High Plains. The largest such structure, the half-mile long Farmarco elevator at Hutchinson is an impressive sight.

The new varieties of wheat and milo can realize their very high yield potential only when all the factors necessary for top performance are available to the growing plant at the right time. The natural supplies of humus, nitrogen and phosphates of the prairie soil have long since been depleted. We have continually sold our crops off the farm and with them tons and tons of minerals taken from the soil. Every farmer could see that his wheat yielded much better when it followed alfalfa, a nitrogen storing plant, or after summer fallow, a moisture storing practice. It was a very impressive demonstration that nitrogen and moisture supply were the two factors which most often limited the full potential yielding power of the best varieties. Rain wasn't so easy to come by, but by the end of the Forties chemical fertilizers began to appear as important items among our farm expenses. Dry pelleted ammonium compounds in the form of nitrate, sulfate or phosphate came first, then the high analysis urea and anhydrous ammonia, not to mention the many mixed fertilizers containing nitrogen, phosphorus and potash in various proportions. This plant food can be applied and incorporated into the soil before planting, at seeding time or later as top dressing, thus making it a very versatile material with which to replenish the minerals constantly taken from the soil by growing crops.

Soil testing laboratories stand ready to analyze the presence of available plant food in our top soil and recommend the amounts of fertilizer necessary for top yields. Here the farmer must use his own best judgment. Within certain limits the increased harvests will pay well for application of fertilizers. But by the "law of diminishing return" more and more fertilizer will not produce more and more yield *ad infinitum*. To find the optimal amounts of fertilizer for a given field may mean the difference between profit and loss. Today we still find here sufficient potash in our soils but we depend heavily on nitrogen and phosphate applications. Fifty years ago Kansas farmers harvested 13½ bushels of wheat per acre. Today yields of 30 to 40 bushels are common and are needed to cover production costs.

The lack of dependable moisture is a continual worry on the High Plains. At times there are downpours which fill every low spot in the field with a pond, or the clouds sail by, month after month, without dropping rain or snow on the thirsty land. The weather bureau has figures for the average annual precipitation at various observation posts in the state. For practical purposes they offer little encouragement for there is hardly ever a "normal" year, rather one extreme or the other. Irrigation is one remedy, as long as weather modification, cloud seeding etc. are still in the experimental stage. Irrigation was extensively used by all great civilizations in history and is quite possible in Kansas. Aside from several rivers, we are fortunate to have water-carrying gravel beds beneath our land. From them we have pumped our drinking water ever since the state was settled. Only when this seemingly inexhaustible supply was tapped by growing cities like Wichita, and by irrigators in the arid western counties of Kansas, did warning signs appear. The water table in some irrigation wells dropped as much as 100 feet. Water was used much faster than it was replenished by natural precipitation, so pumping became increasingly costly. The wide bed of the Arkansas River in Central Kansas carries too often only a modest trickle of water. Stafford County is no exception. Rainfall here is generally just sufficient to grow a wheat crop, but not enough for corn, many forage plants and truck crops. There are now many flood irrigation and overhead sprinkler systems in operation in the

county which furnish enough supplementary water to grow corn, milo, alfalfa and potatoes with a degree of success even in unfavorable years.

However there is a district in my immediate neighborhood, including my farm, which seems to be out of luck. The horizon at a depth of about 100 ft., a plentiful source of water, is here so salty that it becomes unfit for any use, especially irrigation. A striking example for the presence of salt springs is the Rattlesnake Creek. Its banks are covered with a thick stand of trees up to the point where U.S. 281 crosses the creek north of St. John. From here on downstream until it empties into the Arkansas River the creek banks are bare and devoid of any trees, a good indication of the salinity of the water. Commercial mines in Hutchinson, Lyons and other locations make good use of the mighty salt deposits beneath our farmland but for irrigation these can prove disastrous.

Many civilizations in the past which depended on irrigation have disappeared when a build-up of minerals in the topsoil, slowly deposited by evaporating irrigation water, killed off all vegetation. So our small district, depending on natural rainfall, may be condemned to dryland farming but in the long run it will still be producing when irrigated fields will have to be abandoned. Nevertheless, sweet potatoes and Irish potatoes are now successfully grown under irrigation in Stafford County. This branching out into speciality crops can bring much higher returns per acre than wheat or milo and justify the high cost of irrigation but carries high risks and demands heavy investments in capital, labor and managerial ability. So far only operations on a moderate scale are under way. Soybeans and sunflowers as oil crops are quite possible. Triticale, a cross between wheat and rye, and hybrid wheat are under investigation but the latter is certainly not yet practical considering the depressed price of wheat on today's market.

The cattle business is solidly part of our economy. There is enough land along creeks and in the sandhills which is not suitable for crop production but provides grazing through the summer months when our native hot-weather grasses thrive. In many years wheat and milo stubble can be used for winter pasture while alfalfa hay in square or round bales or stacks, together with corn or sorghum silage,

carries the herds through the rest of the winter. Only a very few dairy cows are milked in the neighborhood. The bulk of the cow and calf herds consist of Herefords, Black Angus and any number of crosses, especially with the popular imported white Charolais cattle. Most cattlemen produce calves which eventually end up in one of the many commercial feedlots and go from there as fat cattle to the packing plants. The farmer sells his livestock at regular weekly auctions in Community Sale Barns where he is assured of correct weight, competitive bids and immediate payment. The "Sales" are a great improvement over the early days when we dealt with private cattle buyers on the farm, had to guess the weight of our animals and after some haggling had to take what the buyer offered.

The feedlots provide a market for hay, forage and large amounts of grain, a market that didn't exist before, and tends to improve the price paid for feed grains. Such benefit must be counted against the evil smell that emanates from a feedlot when the wind stands just right.

When I drive through the countryside I have the impression that it is very empty. Of the 144 quarter sections in Hayes township there are only 35 with occupied houses on them and not all the occupants are farmers. Where there were up to four farmsteads on every square mile,

there is now often only one, and many sections are without houses. When I once looked at the countryside from the top of the elevator in Hudson, I was amazed at the view. I had expected to get a glimpse of the bare, flat country made up of fields and pastures stretching to the horizon. Instead I saw more trees, groves and shelterbelts than farmland. The impression is that of a loose forest of cottonwood, elm and locust with only small patches of wheat visible through the branches. Many of the farmhouses have been moved to town or were torn down in order to salvage the lumber. The old groves around them are still standing, hiding an occasional forgotten ruin of a barn, neglected remains of livelier times. As soon as the price of wheat will justify the expense, they will certainly become victims of the bulldozer, go up in smoke and make room for the plow. The land that could be homesteaded free of charge or bought for \$10.00 in 1884 now brings up to \$1000.00 per acre, too much of an investment for an acre covered with shade trees that produce no income.

The squeeze between the high price for farmland and equipment on one hand, and the low price for farm products on the other is the real reason why our young people migrate from the farm to the city. At present it is quite impossible to pay for the expensive land out of

Pioneers on the High Plains were concerned more with "making a living" than making a profit, but even the earliest settlers needed cash crops which could be converted to goods not produced on the farm. Erich Fruehauf has seen a transition in his own farming operation and observes the general change in agricultural philosophy from "Don't put all your eggs in one basket," to "Don't waste your energy on too many projects." In this photograph from his scrapbook, the diversified farmer is shown involved in a home butchering project.





"Even the crops we planted have changed." This 1953 photograph shows Erich Fruehauf during the milo harvest on his one-family farm in central Kansas. He notes that cornfields have been replaced in his part of the state with the grain sorghum, milo, a plant well suited to High Plains soil and climate. A small part of the crop is consumed by the farmer's own livestock and the remainder sold to Kansas feedlots. The crop compares favorably with corn as a feed grain and is raised with much less difficulty.

the crops raised on it. One acre may bring a gross return of \$90.00 (30 bushels of wheat @ \$3.00), while the interest figured at 8% amounts alone to \$80.00, leaving the ridiculous difference of \$1600.00 per quarter section to pay for all costs of production, taxes and labor of the farmer. Who then pays these high prices for farmland? Outside capital in search of tax shelter and local farmers who are fortunate enough to receive royalties from oil wells on their land. Such regular oil income over and above the farming income from the same piece of land needs to be invested. The farmer buys land in preference to industrial stocks because land values escape the inflationary devaluation of other assets. Therefore I see more and more land assembled in larger and larger holdings. The size of farms increases while their number shrinks. Stafford County has 1450 farm units but only 800 farm operators. In 1882 there were 143,000 acres under cultivation, while today 357,600 acres of the county's total area of 462,160 acres produce crops. In the same span of time the population has grown from 4,746 to 6,434, while the farm population decreased. Between 1969 and 1974 the number of farms producing wheat fell from 62,204 all over the nation to 55,813, while in the same period the number of farms with sales of more than \$40,000 rose from 7,886 to 19,608. The trend is unmistakable.

In a prosperous agriculture just the opposite happens. The owner of rural real estate hangs on to every acre that yields a profit. Under the

Code Napoleon farm holdings in Western Germany were simply divided among the several heirs instead of being sold *en bloc*. In the beginning smaller farms so created were still viable. After two or three generations, however, the inheritance of a child dwindled to 2 or 3 acres, more of a burden than an asset to the owner who had to find his main income from a city job. He had to commute to his place of employment while the "farm" robbed him of his rest on weekends and evenings. In contrast to the splitting-up of efficient farms into parcels, we see in Kansas that surviving heirs sell their undivided interest in a farm for cash but retain the mineral rights if there is oil or gas produced on the property. They so sever all ties with the country and become wholly city-oriented, dependent on the labor market but earning more than they could hope to earn on part of a farm. Only the few young men who have both large land holdings and the ability to manage them profitably, are the real heirs of the Land Grant Act which envisioned four prosperous farmers on every square mile. The proportion is now more like one square mile for one prosperous farmer. That is borne out by the 1974 agricultural census which lists the average farm size as 581 acres.

In step with the shrinking number of bona fide farmers their political influence has dwindled. The farm vote, insignificant as it is compared to that of other segments of the population, can conceivably be a deciding factor in a close race. Therefore it is not overlooked be-

fore elections. Congressional candidates of both parties rediscover the farmer, laud his patriotism and call him "the backbone of the nation." After the election they conveniently forget him again. He can be counted on to behave and produce while they have worse problems with their more numerous and demanding groups of urban constituents. The "farm bloc," once a powerful congressional bipartisan congregation, now only seldom acts decisively in behalf of the farmer.

VI. WHAT NEXT?—THE OUTLOOK

I LOOK OUT of my window over the fields and pastures where I know every mudhole and every sandy knoll. There isn't a fence post that I haven't placed and replaced several times through the years. Beyond are the hills where my cattle used to graze. Through a shelterbelt shine the tall, white grain storage towers of the Stafford County Flour Mills Co. in Hudson like the walls of a fairy tale castle. A large diesel tractor moves through the field, occasionally belching a plume of black smoke. It is followed by a small cloud of dust, a steady reminder of how precarious a balance exists between our efforts and the powers of nature. Norman Spangenberg is at the wheel. I saw him grow up on the farm across the road. Now he rents my farmland since I retired. He is one of the select young men who will play a part in the further development of agriculture in Stafford County.

What problems will he face in the future? Too many factors that will influence and transform farming are still unknown, as unknown as the factors were which brought on the transition in farming at the time when Edwin Downer and Robert Hupe turned the first slices of prairie sod on this farm. I was the third farmer here. When I retired it was in a world very much changed from the one I started in. It is unrealistic to assume that all changes have already occurred, that transition has levelled out suddenly, that we have reached a plateau where farming once again is a sedate and well-defined process of production according to established methods, where nothing new happens. I think we have not yet reached a plateau similar to the last 5000 years of known history, where a farmer had to know no more than his father and grandfather knew.

The disparaging remark that the qualification for a success in farming is "a strong back and a weak mind" will be forgotten, if it ever had any justification.

The coming years will require a far greater knowledge of chemicals such as herbicides, insecticides, hormones, preservatives and trace minerals, a solid knowledge of mechanics and electronics. The principles of genetics must be understood. A familiarity with the many plant varieties and their characteristics must be acquired and all possibilities of improvement in the performance of domestic animals must be constantly studied: all that to produce a maximum amount of food and fiber of the best quality at a price the consumer can afford. If the latter criterium cannot be met, then all the other efforts are useless. By the same token, the farmer must be able to afford the machines and materials necessary to operate his farm and receive a fair return on his labor and investment like any other businessman.

The wheat farmer is an integral part of a vast food distribution system and will be more so in the future. We have made great strides in methods by which one farmer can provide food for many non-farmers but we are woefully inefficient in the market place. There our situation is unique. We buy all our supplies, tractors, fertilizer, diesel fuel, at a price set by the seller: take it or leave it. But our product, wheat, comes to market practically every year in quantities larger than can be consumed at home or exported. The oversupply is bought by speculators at ridiculously low prices. The legitimate users in the food industry see no reason to offer more. As soon as we take our wheat to the elevator we lose all control over it. We are forced to accept what the grain trade offers, even if it is less than the cost of production, or keep our wheat.

It is widely felt that government price support payments which were grudgingly granted and held at a minimum by the Congress during some phases of the several farm programs since the Thirties, are not the answer except as an emergency measure. Orderly marketing and an avoidance of unmanageable surpluses should be the goal and guiding policy for all farm programs. The wheat farmer resents "farming for the government." His income must derive from sales to the consumer and not from government handouts of public funds. When that

is achieved he will neither need nor ask for price support payments but will produce taxable income himself.

The ideal solution would be to produce only the amounts consumed in a given year. But in contrast to a coal mine or an automobile factory, where the management can easily adjust the output to the buying orders on hand, the wheat farmer has no real control over the exact size of his harvest. Too many unpredictable factors, the weather being the most influential and most fickle, make it fluctuate widely. For this reason the farmer is inclined to compensate for probable losses by planting as many acres as possible. In a bad year even that won't give him a profit. In a good year he grows too much wheat, gluts the market and depresses his income. In no case should the government be allowed again to hold large amounts of wheat and become engaged in the grain business nor should wheat in the hands of the government be used as a weapon of coercion or reward in the game of international diplomacy.

Joseph's efforts in Egypt (Gen. 41: 34-36) to store the surplus harvest, confiscated in the fat years against a famine in lean years, might have worked. Henry Wallace's "Ever Normal Granary" was less successful because the pharaoh (USDA) didn't store against a famine but acquired his grain through loans to farmers at a low price, then turned around and sold it on the market at a profit as soon as the price rose a few pennies, in direct competition with the wheat still in the farmer's hands.

When the price offered for wheat becomes unbearably low and the farmer suffers the inescapable price-cost squeeze, he is tempted to blame the grain dealer for his hard luck. In desperation he grabs every straw of hope and is even willing to take part in reckless acts when a "leader" advocates boycott or withholding action. These are, as a rule, only of a local character, poorly organized and therefore always ineffective. As a demonstration to explain the farmers' plight to the city consumer they do more harm than good. The housewife at the supermarket has no time to consider the issue and can do nothing about it. She is only irritated when fresh milk is temporarily missing from the shelves.

Tightly organized and on a nation-wide scale a farmers' strike would be terribly effective. It has never been tried. The reasons are many.

The farmers are not well enough organized to act as a group. Their products are more or less perishable, cannot be stored for any length of time without spoiling. Wheat would fare better in this respect than vegetables or dairy products. Many farmers would be unable to weather a strike without financial support of some kind. Finally, most farmers in the wheat belt are church affiliated and have moral reservations. Many would find it unethical to withhold food from their fellow men for any reason.

Since the goal of any reasonable scheme is not extortion but simply an effort to let the law of supply and demand become operative for an important commodity, the farmers of the future will have to balance production and demand. Otherwise the very healthy units, known as "family farms," will be crowded out by a few large corporations. Though not the most efficient producers, these may be able to control the market by trust action. In the field of food processing they are doing quite well already. There is still time to solve the problem on a cooperative basis without sacrificing the family farm. The county committees of the Agricultural Stabilization and Conservation Service (ASCS) are in existence. They could administer bushel allotments and the Federal Government would have to lend its power to enforce the rules.

More small farms will be absorbed into larger operations when experience points out the optimal size of a farm one family can handle. After that, few farmers will move from the farm to the city. I myself have moved in the opposite direction and am thereby an exception. But from my window I can see six farm homes. Three of them are deserted, the remaining buildings falling into ruins. The other three are occupied by non-farmers who lease only the house from where they commute to industrial jobs in the larger cities. None of the six farms is operated by a resident farmer. Taking stock of the people who still work in my neighborhood, I find half a dozen young men, the rest are 65 to 75 years old, hanging on only by habit and for lack of anything else to do. In a few years there will be quite a few farms for sale or rent, an ideal opportunity for a good young farmer with some financial backing to assemble an operation large enough to make economical use of large equipment. Oth-

erwise the land will become the property of absentee landlords, investors or groups of city-dwelling heirs who must depend on the services of farm management firms.

Co-operative ventures among neighboring farmers are thinkable, the participants bringing special talents into the venture. I doubt, however, that they will be of any importance in the near future. The local farmer is historically very much an individualist, used to depend on his own resources and to take his own risks, not cut out for teamwork, except in emergencies, and reluctant to delegate responsibility. I have often been asked by non-farmers, why not more of the expensive machines are owned jointly by neighbors in order to hold down the enormous investment on the several farms. The idea is only theoretically sound. Practical experience shows that such machines are always needed by the several partners at the same time, when weather conditions are just right, and that proper maintenance is a very real problem when many people operate the same machine. Thus investment and operating capital needs will remain high in the future. In the past it was possible to think of security first and avoid risks as much as possible. Belt-tightening was a time-honored expedient. Beginning with nothing, I had to keep my eyes on security first, take as few risks as possible, and leave the big gambles to others. Only in recent times has "belt tightening" become less fashionable. Now it seems that the ideal situation recommended for the progressive farmer is to be up to his neck in debt. The promissory note is a status symbol. He works with implements so expensive that they are worn out by the time they are paid for. Expansion, larger acreage requires more outside credit and makes the borrower more dependent on the money lender, on top of all natural dependencies. I have always slept better when I had no debts. It is not the way to get rich fast, but it can help avoid fast bankruptcy.

Whatever form future ownership will take, there are serious problems ahead for all agriculture. It will need a new source of energy. Industry may convert to coal, but steampower is not very practical for farming. The gasoline motor may face extinction when present oil supplies become exhausted, and become uneconomical long before that day, when the price for the last fossil fuel becomes prohibi-

tive. Electricity would be the next choice if a lightweight, high capacity storage battery can be developed to power electric motors in the field. Unless some as yet unforeseen new invention, such as coal gassification, offers a solution to the energy problem, agriculture may have to fall back on horse and mule power, with the loss of all the high productivity it had reached in the 20th century. Horses would require again a good share of the farmland for feed, more people would be needed to handle them and proportionately less food would be available for the urban population. Even if the population explosion comes to an end, it would be impossible to provide food for everybody with 18th century energy forms. Our chronic oversupply of wheat which we have come to regard as a normal condition could turn into a problem of acute scarcity within a very few years.

The coming change to the metric system, though necessary and long overdue, will be a mixed blessing for the farmer. On the plus side he will be freed of the antiquated, impractical weights and measures for the products he brings to market. Today, for instance, it is impossible to compare prices for feedgrains without time consuming arithmetic. Most prices are quoted for one bushel. A bushel is not a unit of weight as one might expect but a dry measure of capacity, the amount of grain necessary to fill a container of eight gallons capacity. At the elevator the grain is weighed and not measured as in Biblical times. Consequently the prices quoted are for bushel equivalents, in the case of wheat for 60 lbs., while a bushel of corn weighs 56 lbs., oats 32 lbs. or barley 48 lbs. Milo, however, is traded on the basis of 100 lb. units. It will be a relief for everybody when this jungle is cleared.

The most difficult change for the farmer will be the fact that he must get accustomed to new measures for his land. If you cross the Great Plains by airplane you see below a checkerboard design of squares of equal size, bordered by public roads on all four sides. These are the well known "sections," measuring one sq. mile or 640 acres. In the future they will be known as 2.5899 sq. kilometers, containing 258.998 hectares. There is no getting away from inconvenient decimals and the farmer will be lost without his electronic pocket calculator.

More headaches will plague the farmer of



One of the headaches which will plague the farmer of the future is compaction of the soil by heavy machinery. Erich Fruehauf says the danger is played down by the manufacturers of big tractors and implements, but he has seen a good example of the problem on his farm. In that experience, heavy portable oil field equipment was pulled across his land by two Caterpillar tractors, and despite farming and deep plowing the track is still visible 25 years later.

the future. One of them is compaction of the soil by ever heavier tractors and implements. The danger is played down, naturally, by the manufacturers of such equipment and not taken very seriously by the happy users of big machines, a small evil easily outweighed by the other advantages. But I can judge by my own experience the effect of compaction. In 1950 two Caterpillar tractors pulled a heavy portable oil derrick across one of my fields to a drilling location. Despite continuous farming and deep plowing this track is still visible 25 years later. It shows up as a band where the wheat stands four inches shorter than in the rest of the field.

Not only oil will be in short supply. Soon irrigation water will become equally scarce and much more expensive to pump. I live in a region of low natural precipitation which is not sufficient to replenish the underground reservoirs if they are continuously used for irrigation and the growing demands of industry and the cities. Already farmers are lawfully protecting their priority rights on the water reserves for the future on a first come, first served basis. Thereby they hope to assure continued access to groundwater in the future to the exclusion of later demands by others on the same source of water. The city of Wichita has al-

ready reached the point where the water supply pumped from the gravel beds underneath cannot be increased and was forced to supplement it with surface water from Ninnescah creek, impounded in Cheney reservoir.

All these difficulties will not come over night, and there will be, I hope, solutions in the future other than the ones known to my generation. I even have a hunch that people may later look back to these 50 years in the history of agriculture, the years I had the good fortune to live in Kansas, and call them, with a sigh of nostalgia, the good old days. They were the days of plenty and of luxuries for everybody, which made us the most envied and hated nation on earth. Yet they were also the days of frustration and loss for many. And they were the days when their forefathers, without a thought to the future, didn't know better than to burn up, waste and deplete the irreplaceable fossil hydrocarbons with their potential as raw material for fertilizers, plastics, pharmaceuticals and many other uses by chemistry.

"Recycling" is a word just invented. It will be much better known in a few years and become a standard practice when more and more shortages will plague manufacturing plants. The handwriting is on the wall. Today automobile bodies and beer cans are reclaimed

as raw materials, glass bottles are refilled many times. Many more products will of necessity follow.

The good old days were the days when whole forests became paper for packing crates and bags, and junk mail which ended promptly in the trashburner. They were the days when fissionable uranium went into stockpiles of warheads, while the peaceful use of this form of energy, initially hailed as the solution of the energy crisis, was still hampered by so many technical difficulties and becoming so expensive, that the world had to look somewhere else for alternate energy. Our grandchildren will

not understand our recklessness and our lack of foresight, just as we can hardly understand the folly of religious wars which decimated our forebears.

Farming and life in general will soon be quite different from the conditions we know, and probably not to our liking. But even these will be the good old days to the following generation while our own age may well go into history as the golden age of farming, despite everything we find to criticize on it. Maybe we don't appreciate enough how good we really have it.