

America's dying farm sector: the deficit in agricultural inputs

by George Elder

Today, United States agriculture is in a crisis worse than the Great Depression. We lack machinery to work the soil. We lack inputs to maintain it. We are in the process of losing the farmers who produce the food. Through a variety of financial swindles, including high interest rates and credit cutoffs at home, and the destruction of export markets through IMF conditionalities and the over-valued dollar, the most productive agricultural sector in the world is facing collapse this year.

Disaster has been in the process of creation for years, as we will document. Extraordinary measures are demanded to correct it, but these measures must be taken. What is currently at stake in agriculture is the question whether the United States will even be able to feed itself, let alone contribute the necessary skills, technology, and food to avert imminent famines around the world. If we do not meet this challenge with the appropriate action immediately, the United States as a nation is living on borrowed time.

The current wisdom about agriculture is that of David Stockman: The reason so many farmers are going out of business, it is claimed, is that they are poor managers, dependent on the public purse, and subsidized prices. The current "shake-out," Stockman's friends tell the President, will end shortly with the bankruptcy of these farmers that obviously deserve just what they are getting. When this process has ended, the problem of over-production will be solved, and everything will be all right.

This view of the current situation is just about as far from the truth as possible.

Land prices have plummeted by 50-75%, a rate of decline not seen since the 1930s.

The credit required to replace worn-out equipment and buy chemical inputs has dried up.

Farmers with loans are in such bad financial condition that as of January 1985, over 60% of all Federal Home Mortgage Administration (FHMA) farm-borrowers were in arrears.

The inputs required to maintain soil fertility for future crops have been cut to the point that farmers are now "mining" the soil.

Farmers are buying less farm machinery today than during the 1960s. For example, tractor sales have dropped from 270,687 (including industrial tractors) in 1966 to 117,734 in 1984.

Farmers are being driven off the land by the thousands

each month; 120,000 went out of business in the first three months of 1985.

Yet, the farmers are in less bad shape than the domestic producers of the capital goods which, combined with the ingenuity and production skills of the farmer, made American agriculture what it was.

Today, the United States produces fewer tractors than during the 1920s. But then, the horse supplied the main source of power for farmers to produce. The situation is so critical now, that without imports, American farmers would not only be unable to produce enough food for the needs of the nation as a whole, they could very well find themselves in a position where they could hardly produce enough food for themselves.

The credit crisis

The first major area to examine is the area of farm credit. On Friday, May 31, 1985, seven farm banks failed, setting a new record for the number of banks to fail in one day since the Great Depression. Yet, even if the banks, and other lending institutions, did have the money for the farmer to borrow, this still would not solve the credit problem. Most of the farmers have already borrowed most of their net worth to stay afloat. The farmers have exchanged equity for debt for several years.

The Farmers' Home Administration (FHA) has released statistics that should scare every sane person in the United States. (See **Table 1**) Of the 437,228 FHA borrowers, 272,005 were in arrears as of January 1985. What makes this number even more shocking is the fact that the number in arrears increased by 113,768 from June of 1984 to January of 1985. This increase of 113,768 is 26% of the total number of borrowers served by the FHA. The chart also shows the progressive deterioration of the farm sector. The numbers become even more alarming when one realizes that there are only 481,166 farmers listed as being full-time farmers in the 1982 *Census of Agriculture*. To further clarify the situation in your mind, delinquent accounts make up 62.2% of the total number of accounts.

As one result of the credit crunch, the use of lime as a soil nutrient, has dropped an astounding 26% over the three years from 1980 to 1983, and informed sources indicate that the statistics for 1984 will be even worse. (See **Table 2**) Another way of stating the deficit is that the intensity of use dropped

Table 1.

Delinquent FHA accounts
(thousands)

	6/77	6/78	6/79	6/80	6/81	6/82	6/83	6/84	1/85
Active	255.2	293.5	324.9	372.0	423.1	434.5	436.6	446.9	437.2
Delinquent	37.9	40.5	42.1	62.2	84.9	120.2	146.3	158.2	272.0
% delinquent	14.8	13.9	12.9	16.7	20.1	27.7	33.5	35.4	62.2

Even if the banks and other lending institutions did have the money for the farmers to borrow, this still would not solve the credit problem. Most of the farmers have already borrowed most of their net worth to stay afloat.

Table 2.

U.S. Fertilizer and lime usage

	Nitrogen N	Phosphate P ₂ O ₅	Potash K ₂ O	Lime
1960	2,738,000	2,582,400	2,153,300	22,613,599
1970	7,459,000	4,573,800	4,035,500	38,985,000
1975	8,600,800	4,506,800	4,453,200	31,319,779
1976	10,411,600	5,227,600	5,209,700	38,146,914
1977	10,647,400	5,629,700	5,833,800	31,381,047
1978	9,964,600	5,096,100	5,526,100	30,696,851
1979	10,714,700	5,605,800	6,244,500	30,979,219
1980	11,406,700	5,431,500	6,245,100	34,402,411
1981	11,922,800	5,434,400	6,319,500	29,646,628
1982	10,983,100	4,813,900	5,630,900	23,236,992
1983	9,127,000	4,137,500	4,831,000	25,506,896
1984	11,146,000	4,929,200	5,808,500	n/a

from 154 pounds per acre in 1974, to 121 pounds per acre in 1982, and 1974 was a relatively low year.

Lime, whose common use as a soil additive was introduced in this country by Benjamin Franklin, increases the productivity of the soil. Lime is always the first of the soil inputs to be cut out when times are bad, because each application affects the soil over a several-year period, and the effects of not using lime will not immediately be seen in the first crop. That is, if liming is omitted one year, it will have little effect on crop yields. However, once omitted, the efficiency level of fertilizer applications will decrease at an increasing rate, making the fertilizer ineffective. So, while a hard-strapped farmer will try to save money one year by skimping on lime additives, while continuing to use fertilizer, he is not just robbing Peter to pay Paul, he is robbing both. The American farmer has been mining, or stripping, the soil in this way since at least 1980.

One agronomist warns that the farmers in the United States are building a huge lime deficit which will have a major effect on the yields of several crops. The first crops to be affected will be the legumes, which include soybeans (one of the three top crops produced in the United States, and the highest in protein); alfalfa and clover (the main roughage crops necessary for dairy production); and peanuts, the main nut crop in the United States. The next likely crop to be affected by the lack of lime is corn, the number one feed crop for hogs, cattle, and poultry. Next, the wheat crop will be affected, and finally the shortage of lime will reduce the yields of practically any crop you can name.

An approximation of the current lime deficit can be cal-

culated by using the average amount applied during the 1975-80 period, 32.8 million tons, as the requirement. The average for the three years 1981-83 is 26.1 million tons, and if the 1984 applications were equal to this average, which is probably over-optimistic, the deficit accumulated so far is 29.7 million tons, more than the amount applied in any year since 1980. The price of the lime to replace this deficit is \$474.5 million, using a price of \$16.00 per ton.

Farm equipment not being produced

The equipment being used by farmers today, in all too many cases, resembles junk more than anything else. An in-depth examination of the equipment now used to grow food for the population of the United States, as well as a major portion of the population of the rest of the world, is obviously required. This is most easily understood in terms of farm tractors, and how they have been used.

No one will debate the fact that the farm tractor is essential to all modern-day agriculture. Therefore, the condition of the rolling-stock on farms is of the utmost importance, when trying to determine what the condition of agriculture is in the United States, and how this will affect the future food supplies of not only the United States, but also the rest of the world.

The use of tractors has enabled the American farmer to make the United States the most productive nation in terms of agriculture in the history of the world. Following World War II, the United States built tractors at an amazing rate, increasing the number of tractors by almost 100%, from 2,215,000 tractors in use on farms in 1944, to 4,243,000 in 1954. The continued increase in the number of tractors in use on farms slowed in absolute numbers, and topped out during the 1960s, at 4,787,000. (See **Table 3**)

The early units produced after World War II, were very small by today's standards. The tractors produced had 35 horsepower or less, and could only do a small portion of the work that tractors are capable of doing today. The technology introduced in the early 1950s changed the entire matrix in farming. This tremendous change in agriculture was made possible by the fantastic increase in machine-tools in the late 1940s and early 1950s. The accompanying charts and graphs on machine-tools help bring into focus the tremendous impact the new machine-tools had on the farm equipment industry.

The availability of these tools made possible the tremendous increase in the number of tractors produced. As the

Table 3.

U. S. tractor use and production

	Total in use (thousands)	U.S. produced	Exported	Imported	Retail sales	% import sales
1946	2,480					
1955	4,345	330,141*				
1965	4,787	244,050*	162,482			
1970	4,619	175,808	16,824	13,697	135,532	10
1975	4,463	211,316	45,515	22,862	150,540	15
1979**	4,990	159,973	27,381	10,001	138,990***	NA
1980	4,960	118,480	29,032	77,651	166,078	47
1981	4,925	118,209	29,566	74,357	151,635	49
1982	4,855	65,165	17,890	73,295	119,111	62
1983		45,966	12,333	104,06	116,933	89

* For years 1965 and prior, the number of tractors listed includes industrial units.

** In 1979 the Department of Agriculture Survey changed the manner in which statistics were gathered, therefore making substantial changes in the number of tractors in that year only.

*** In the years 1977 through 1979, the Farm and Industrial Equipment Institute did not report the number of tractors produced in the under 40 horsepower classification.

The large number of tractors produced in the 1950s made possible the upsurge in production that followed in the 1960s. This increase in production supplied farmers with additional capital, that in turn allowed the farmers to purchase the more powerful tractors of the 1960s. Since the high point reached in the 1970s, the production of farm tractors has been in decline. The decline is not gradual as in the beginning, but is gaining momentum, affecting not only the number sold, but the type sold. This decline is not just serious; it is a disaster.

Table 4.

Farm tractor horsepower

	Less than 35	35-40	40-100	100-140	140+	Total 2-Wheel Drive	Over 40 2-Wheel Drive	4-Wheel Drive
1965	11,688	36,976	121,810	3,409	3,696	162,482	125,506	NA
1970	7,847	31,821	78,276	24,110	1,325	135,532	103,711	NA
1975	7,762	22,448	63,461	43,475	21,156	150,540	128,092	10,605
1979	NA*	65,000	40,932	21,603	127,535	127,535	11,455	
1980	46,742	58,121	31,610	18,718	155,191	108,447	10,887	
1981	47,800	50,973	27,522	15,657	141,952	94,152	9,683	
1982	41,967	41,134	18,711	10,536	112,348	70,381	6,763	
1983	45,596	38,082	14,503	13,651	111,832	66,236	5,101	
1984	51,010	38,253	9,843	14,653	113,795	62,749	3,975	

* In the years 1977 through 1979, the Farm and Industrial Equipment Institute did not report the number of tractors produced in the under 40 horsepower classification.

chart on tractor production shows, the number of tractors produced in 1955 was 330,141 compared to the 45,966 produced in 1983. The number produced in 1983 is less than 14% of the number produced in 1955. But, you will also readily note, the machine-tools used in the farm equipment industry have been declining in number, and quality, ever since 1953.

The large number of tractors produced in the 1950s made possible the upsurge in production that followed in the 1960s. This increase in production supplied farmers with additional capital, that in turn allowed the farmers to purchase the more powerful tractors of the 1960s. In every case cited so far, the higher level of technology led to higher production. The higher level of production had the effect of allowing the farmer to produce more food, at a lower price, with less work. To make the point crystal clear, please refer to **Table 4**, on tractor horsepower. Of the 157,431 farm tractors produced in 1964, only 3,409 had a horsepower rating of more than 100. By studying the chart, you will note that the number of tractors in the 100-plus category increased dramatically, from

3,409 in 1965, to 24,893 in 1969. At the same time, the small tractors, in the under-35 HP class, dropped almost 50%. What this demonstrates is the process whereby applying more HP to the land, more energy-intensive work, results in bringing about a major increase in production. Following this process out, the number of tractors in the under-40 HP category also fell dramatically during the same time span.

The next step in the process was the introduction of the four-wheel-drive tractor on a large scale. These tractors had ratings of over 200 HP, and some had ratings of 300 HP. The number of tractors produced in one year reached an intermediate high of 196,994 in 1973. Of this number, 150,291 of the two-wheel-drive engines were in the over-40 HP, range with an additional 6,460 of the even more powerful four-wheel-drive type.

This basic trend in agriculture continued with the reduction of the number of under-40 HP tractors, which led the Farm and Industrial Equipment Institute to eliminate reportage of the numbers sold. This type of tractor declined in sales to 15,909 in 1976.

Table 5.

The U.S. machine-tool stock

Age of metal-cutting machines (%)								
	1949	1953	1958	1963	1968	1973	1978	1983
0-10	50	50	28	27	22	25	28	32
10-20	25	27	46	47	39	35	28	28
20+	25	23	26	29	39	40	44	40
Total	50	50	72	76	78	75	72	68
over 10								
Age of metal-forming machines (%)								
0-10	36	42	28	19	20	25	31	20
10-20	28	21	43	43	35	38	28	33
20+	35	37	29	38	45	37	41	40
Total	63	58	72	81	80	75	67	73
Over 10								
Number of metal-cutting machines (units)								
0-10	24,227	35,557	12,692	10,754	7,341	10,861	10,118	8,224
10-20	12,050	18,517	20,851	18,719	12,550	15,205	10,108	7,196
20+	12,221	16,298	11,786	10,377	12,889	17,378	15,884	10,281
Over 10	24,271	34,815	32,637	29,096	25,439	32,583	25,992	17,477
Total	48,498	70,372	45,329	39,828	32,772	43,444	36,100	25,701
Number of metal-forming machines (units)								
0-10	3,865	7,182	3,265	2,388	2,577	3,918	4,464	2,923
10-20	3,025	3,676	5,014	5,405	4,438	5,956	4,032	3,445
20+	3,733	6,241	3,381	4,776	5,687	5,800	5,904	4,176
Over 10	6,755	9,917	8,395	10,181	10,125	11,756	9,936	7,621
Total	10,623	17,099	11,660	12,569	12,702	15,674	14,400	10,440

Not only has the total number of both metal-cutting and metal-forming machine-tools been reduced: The basic quality has also been reduced. In both 1949 and 1953, 50% of the machine-tools in use were less than 10 years old, whereas only 28% of the metal-cutting and 33% of the metal-forming tools in 1983 were less than 10 years old.

Since the intermediate high point reached in the 1970s, the production of farm tractors has been in decline (See Table 3). Unfortunately, the decline is not gradual like it was in the beginning. The process we have been tracing has been gaining momentum. In addition, the process not only affects the number of tractors sold, it also includes the type of tractor sold. This area of decline is not just serious, it is a disaster.

Instead of buying the larger tractors necessary, farmers are buying more and more small tractors. Table 4 shows the increase from 15,909 in 1976 to 51,010 in 1984. These numbers are alarming, but don't tell the whole story. The even bigger problem is that the percentages with respect to the composition of the tractors being sold is even more alarming. In 1976, 10% of the tractors sold were in the under-40-horsepower class, while in 1984, 43% were in the under-40 horsepower class.

When viewing this shift in the type of tractors bought by farmers, no one can possibly deny that there is a shift from the pattern that has produced abundance by applying more horsepower to the soil, to a pattern that is the reverse. When less horsepower is applied, less food can be grown. When farmers grow less food there is less food to eat. When such a process continues, starvation is the only end possible for the population.

To further complicate the situation, the equipment companies that build the farm machinery are in such disarray that they are not able to build the equipment required for even

subsistence farming. In an effort to survive, they have not only cut all the fat, they have cut bone. The equipment companies have reduced the machine-tools they need to make tractors to the point that, as of 1983, fewer machine-tools existed in both the metal-cutting and metal-forming categories than the industry had in 1949. Not only has the total number of both metal-cutting and metal-forming machines been reduced: The basic quality has also been reduced, as can be illustrated by the fact that in both 1949 and 1953, the *American Machine Tool Survey* shows that 50% of the machine-tools in use were less than 10 years old, whereas only 28% of the metal-cutting and 33% of the metal-forming tools in 1983 were less than 10 years old. Except for the temporary upsurge in 1973, during the beginning of the huge increase in agricultural output by American farmers that amazed the world, the trend in both quantity and quality has been down.

However, a closer review of the machine-tool section of the farm-equipment manufacturing companies is in order, since these tools are used to make every piece of equipment manufactured. Without machine-tools, the farm-equipment manufactures would not exist. The rest of the story is that the age of machine-tools is increasing. **Table 5** shows that since 1953 the percentage of tools over 10-years-of-age has increased. In the 1950s and the 1960s, when the surveys were made by the American Machine-Tool Association, machine-tools over 10-years-old were regarded with suspicion. The area that accounts for the high rise in age of the machine-

tools in the farm-equipment industry is the category over 20-years-of age. This area rose from 23% of the metal-cutting tools in 1953 to 40% in 1983. Although the percentage of metal-forming machines over 20-years-of-age has increased, from 35% in 1949 to 40% in 1983, this is not as bad as the results in metal-cutting machines. The metal-forming machines absorbed part of the aging process in the 10- to 20-year-age range, as this area increased from 28% in 1949 to 33% in 1983.

Please note that in 1978 (and the following years), the metal-cutting and metal-forming tools used in the manufacture of garden equipment were included for the first time. This causes a major distortion in the numbers and makes the machine-tool figures look much better than the true situation.

Any study of an industry requires at least some basic analysis of that industry's consumption. The farm-equipment industry is consuming steel at drastically reduced rates in 1983, compared to 1977. Carbon steel and alloy steel consumed 2,281,900 tons of steel in 1977, but fell 55% in 1983, to 1,248,100 tons of steel. The big losers in these categories were carbon steel plates and structural shapes which fell 54%, and alloy steel (except stainless) bars and shapes, which fell a whopping 65%. The use of castings has fallen by 32% in just five years as well. In addition, during 1983 the farm-equipment industry used 40% fewer iron and steel forgings than in 1977.

The number of diesel and semi-diesel engines used plummeted from 199,600 in 1977 to 94,500, a drop of 53%, while the use of the smaller engines managed a slight increase of 7,400.

The statistics just cited show that the industry, in a short five years, has collapsed in many areas more than 50%. In other areas the basic deterioration ranges from 35 to 45%. The statistics show the farm-equipment industry with a very short time left to exist.

The major shift in the engine category, from large diesel engines for farmers to small gasoline engines for "city-farmers," shows the process taking place in agriculture, degenerating from a very productive type of agriculture, to a small less productive form of agriculture.

A dying industry

The loss of the steel-cutting seen in reductions of carbon steel, alloy steel, castings, and iron and steel forgings. Contrary to the David Stockman school of economics, these figures do not just represent an industry that is in the process of "retrenching." The farm-equipment industry is dying. (See **Table 6**)

The number of companies manufacturing farm equipment in the United States has decreased to such a degree that only John Deere and International Harvester-Case remain as viable domestic enterprises, and the future of both companies is in jeopardy. It is very possible that these two companies may go out of business in the next several months. Although

Ford is also in the farm-equipment business, in this country, the company is involved primarily in assembly-line parts production, not in the full manufacture of farm equipment, and should therefore not be considered a domestic farm-equipment manufacturer.

During the last two quarters of 1984, International Harvester sold its Farm Equipment Division, in order to keep the entire company from going under. Harvester has been in the forefront of mechanized farming since it was founded by Cyrus McCormack, inventor of the mechanical reaper. Harvester's Farm Equipment Division was sold to Tenneco, the firm that had earlier purchased David Brown, a tractor manufacturer, before also buying up Case, a major manufacturer of tractors and other types of farm equipment.

The newly formed merged firm, Case/International, has cut the tractor lines formerly offered by both Harvester and Case. Case has ceased production of tractors under 100 HP, while International stopped the production of tractors over 100 HP. And, in the process, the merged firm has also forced a net decrease in the number of dealerships in the country, by forcing all the International dealerships to purchase the existing Case dealerships, where both an International dealership and a Case dealership were located in the same area, or to sell out to the Tenneco-merged firm at bargain prices.

John Deere is in a situation that is just as bad. At the present time, the company is about to drown in a flood of red ink. The situation is so severe that the firm has closed the four-wheel-drive tractor line for at least six months. In addition, John Deere's combine production suffers from the same symptoms as the tractor manufacturing portion of the company. As a result, the manufacturing of combines has been curtailed. This shut-down is no small matter, as John Deere is the largest farm-equipment manufacturer left in the United States. The current problems of this firm are so severe that the estimated loss of 25% of the John Deere dealerships during 1985 in the United States may very well prove to be too conservative.

Massey-Ferguson, presently a Canadian firm, is also in trouble. Massey-Ferguson used to manufacture equipment in the United States. Only a special financial bail-out arranged by the Canadian federal government managed to keep the company from going bankrupt. Not only does this company produce tractors, it also produces combines and other types of farm equipment. The firm is also an old one, and therefore a large amount of their equipment is in use on American farms.

Within the last two months, another large old equipment company bit the dust. White (Oliver) was informed that a \$200,000,000-plus line of credit was being rescinded, and that other arrangements would have to be made. White now has the following choices: either to find new financing (which doesn't exist); to sell the farm-equipment division (for which there isn't a market since the firm doesn't have a special piece of equipment that some other firm wants to market, nor does

Table 6.

How the farm-equipment industry consumed materials

	1983	1977
Mill shapes and forms, except castings and forgings: (thousand short tons)		
Carbon steel:		
Bars and bar shapes	327.0	560.1
Sheet and strip	519.2	968.6
Plates	115.1	249.5
Structural shapes	81.8	177.9
All other carbon steel mill shapes and forms	173.3	237.4
Alloy steel except stainless:		
Bars and bar shapes	30.7	56.3
Aluminum and aluminum-base alloy: (million pounds)		
Sheet, plate, and foil	3.8	9.9
All other mill and extruded shapes and forms (wire, rolled rod and bar, powder, welded tubing, etc.)	4.0	15.2
Pig iron, excluding silvery iron (thousand short tons)	20.0	31.3
Iron and steel scrap, excluding home scrap	65.4	166.1
Castings (rough and semifinished):		
Iron (gray and malleable)	288.2	421.2
Steel:	111.2	18.0
Iron and steel forgings:	59.0	99.0
Engines:		
Diesel and semi-diesel: (thousands)	94.5	199.6
Gasoline and other carburetor:	171.3	163.9
Electric motors and generators:		
Fractional horsepower electric motors	.5	226.6
Integral horsepower motors and generators (1 HP or more):	.6	205.1
Pneumatic tires and inner tubes	52.6	5,660.0
Semi-pneumatic tires	3.9	NA
Paints, varnishes, lacquers, shellacs, japans, enamels, and allied products (thousand gallons)	5,008.9	5,113.2

the firm have any other assets of special interest); to take their lumps and sell at a very low price; or just phase the farm-equipment division out. This firm has a total of 900 dealerships, 700 of them in the United States. The loss of this firm will be a major blow to its former farm customers.

Allis-Chalmers, another major farm-equipment manufacturer and distributor, also has had a terrible time. During the last two months, Allis-Chalmers has decided to dissolve the farm-equipment portion of the firm in the following manner: The tractor portion of the firm is to be terminated this year, with the closing of the tractor plant in Allis, Wisconsin, and the closing of the engine plant next year. The portion of the company which produced combines has been sold to Deutz of West Germany, under an agreement that will allow Allis-Chalmers to participate in any profits generated. Under the agreement, Deutz will have access to the dealer network of Allis-Chalmers, since Allis-Chalmers is basically going out of business. With the sale of their combine manufacturing to Deutz, Allis-Chalmers hopes to be able to ride out the bad

times and have the rest of the company survive.

One final statement needs to be made with respect to the farm-equipment business. Mr. Harold Sibley, president of the Farm and Industrial Equipment Institute, gave a talk last year, in which he reviewed the statistics, that show that farm income and purchasing power are concentrated in a small number of farms: 300,000. Mr. Sibley said: "Looking at those farms with purchasing power—300,000—and assuming that one dealer can service 60 such farmers, we arrive at a figure of 5,000 dealers that are needed. With 8,800 existing dealers, all fighting for that major farm market, we see that we have excess capacity of 3,800 dealers, or 43% for which there is questionable need."

At the present time, a major portion of food being produced by American farmers is being produced with very old equipment. The problem with using old equipment is that old equipment breaks down a lot. When the farmer's equipment breaks, the farmer has to fix the equipment to continue to grow food. If the farmer is not able to obtain repair parts, the piece of equipment is useless. Without equipment that is in good working order, the farmer can't grow food. When the companies that produce the equipment no longer exist, the repair parts necessary to keep the old equipment in running order will not be available. Therefore, if the United States is unable to continue to import tractors and spare parts for even a short time, the United States will collapse because as a nation it will be unable to feed its population.

In summary, what is the overall picture in American agriculture? At the present time, the United States is only able to produce enough cereals for the nation. There is not enough dairy and beef being produced. If the United States were to get serious about the problem and decide to produce food, the farmers would be unable to respond to a crash program without enormous amounts of new farm equipment. *EIR* calculates, based on the size and use of farms today, that the country needs at least half a million new tractors a year, over an 8-year period, to make up the current deficit. The farm-equipment manufacturers don't have the machine-tools to manufacture the equipment necessary to produce the food required to make the country self-sufficient in the area of food production. On top of that, at the rate the United States is losing farmers, very soon the country won't have the farmers needed to grow that food.

What can be done to avert this disaster? Only a new economic order based on the principles of the American System holds any hope for the future. Such a system will allow the farmer for the first time in decades to receive a complete return of all expenses, and a reasonable profit. If such a system is not instituted immediately, the depreciation on which the farmers are existing will run out. When that happens, it will be the end of the nation. We cannot return to the horse and buggy days of long ago. There aren't enough horses or buggies to go around. Agriculturally speaking, we have been borrowing from tomorrow to live today.