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Earl O. Heady positive sum concept: an alternative agricultural program

Tammy J. Lusher
Iowa State University

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Earl O. Heady positive sum concept:
An alternative agricultural program

by

Tammy J. Lusher

A Thesis Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF ARTS

Department: History
Major: History

Signatures have been redacted for privacy

Iowa State University
Ames, Iowa
1992
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CHAPTER ONE: INTRODUCTION

Dr. Earl O. Heady in the 1950s and 1960s proposed an alternative agricultural program he called the "Positive Sum Concept". He based his program on his definition of the agricultural problem. Unlike the government which defined the problem as excessive surplus caused by increased productivity which led to low net farm income, Heady viewed the problem as a lack of adjustment by farmers to the new agricultural technology they had adopted. This lack of adjustment caused the excessive surpluses that depressed commodity prices and thus farm income. To overcome this problem, Heady proposed a government land purchasing program to remove enough land from crop production on a permanent basis to bring commodity production into balance with demand. For the farm families displaced by this program, Heady proposed a retraining and relocation program. Unfortunately, Heady's program overlooked long-held American beliefs surrounding land ownership, the political environment, and what seems particularly peculiar for one in his position, the continuing growth in productivity per acre of many crops. One is forced to conclude that Heady seemed to be more enthralled with the use of linear programming than with the feasibility of the results in projecting cost and effect of proposed agricultural programs. As a result Heady's proposal had little impact on policy makers.
The problem of surpluses and low income had its roots early in American history with the distribution of land, much of which went into crop production; and since the 1860s, with federal support of agricultural education, which resulted in improved farming practices and adoption of technology. The result was ever increasing productivity. By the 1920s productivity and market changes resulted in low prices and led some agricultural interests to demand the government help to sustain or raise farm income. The arguments in the 1920s over the role of government in agriculture and over the McNary-Haugen bill influenced Congress in the 1930s as it respond to the Depression and created programs to raise farm prices. The 1930s thinking about the "farm problem" guided the discussion about farm programs through the 1960s and still had some effect in the 1990s. A key element of the farm program was the price support system utilizing acreage restrictions, price support loans, subsidized sales, and marketing orders. The government, through the Department of Agriculture, land-grant universities, and the extension service also encouraged research and development of new agricultural technology and more efficient methods of farming. While the early price support program was aimed at raising prices by reducing output, the activities of the Department of Agriculture and the land-grant universities, the extension service, and chemical and equipment manufacturers, increased productivity. So even with fewer acres planted surpluses continued. By the 1960s, this resulted in a situation where the number of farms declined as small scale farmers were forced out
of business, and production and income continued to concentrate in the hands of ever fewer commercial farmers. Table 2.1 shows the decline in the number of farms from 1910 when the United States had 6.5 million to the 3 million farms in the 1970s. Table 2.2 displays the distribution of net farm income by sales class for 1968. In that year, 31.5 percent of the farms in the United States had 85 percent of cash receipts; over half of the farms by Census definition had sales of less than $5,000 per farm.¹

The trend towards fewer farms and farmers was far from the minds of the generation after the Revolutionary War. Instead the new states and the national government embarked on a land policy which increased the number of farms by making land readily available. Early land laws of both state and federal governments were aimed at rewarding Revolutionary War veterans and paying off the war debts by selling land. The states began this during the Revolutionary War. First they eliminated feudal forms of landholding, then they moved to distribute land to private interests as quickly as possible. The New England states, wanted to encourage small farm communities so they sold small tracts at low prices which undercut somewhat the intention of paying off war debts. These state land policies influenced first the Confederation and then the federal land policies. The land policies continued to encourage the small family farm as the typical unit. These small units were best suited for farming as it was in the late 18th century and much of the 19th century but with the accelerating pace of improvements in agricultural technology and the expansion in land size of the typical farm, small scale farmers and their farms struggled to remain
Table 2.1  Number of farms and average farm income per farm 1930-1970

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Farms 1,000</th>
<th>Total Gross Income (a) Per Farm Dollars</th>
<th>Production Expense Per Farm</th>
<th>Operators Total Net Income Per Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1910</td>
<td>6,362</td>
<td>1,155</td>
<td>567</td>
<td>700</td>
</tr>
<tr>
<td>1920</td>
<td>6,448</td>
<td>2,467</td>
<td>1,416</td>
<td>1,300</td>
</tr>
<tr>
<td>1930</td>
<td>6,546</td>
<td>1,753</td>
<td>1,061</td>
<td>651</td>
</tr>
<tr>
<td>1935</td>
<td>6,814</td>
<td>1,423</td>
<td>751</td>
<td>411</td>
</tr>
<tr>
<td>1940</td>
<td>6,350</td>
<td>1,742</td>
<td>1,080</td>
<td>706</td>
</tr>
<tr>
<td>1945</td>
<td>5,967</td>
<td>4,326</td>
<td>2,189</td>
<td>2,063</td>
</tr>
<tr>
<td>1950</td>
<td>5,648</td>
<td>5,718</td>
<td>3,445</td>
<td>2,417</td>
</tr>
<tr>
<td>1955</td>
<td>4,654</td>
<td>7,147</td>
<td>4,764</td>
<td>2,429</td>
</tr>
<tr>
<td>1960</td>
<td>3,963</td>
<td>9,715</td>
<td>6,919</td>
<td>2,896</td>
</tr>
<tr>
<td>1965</td>
<td>3,356</td>
<td>13,561</td>
<td>9,988</td>
<td>3,883</td>
</tr>
<tr>
<td>1970</td>
<td>2,954</td>
<td>19,838</td>
<td>15,088</td>
<td>4,752</td>
</tr>
</tbody>
</table>

(a) This figure includes: cash receipts from marketings, government payments, realized and nonmoney and other farm income.

### Table 2.2  Farms, Cash Receipts, and Net Farm Income by Sales Classes, 1968

<table>
<thead>
<tr>
<th>Farms With Sales Of:</th>
<th>Cash Receipts</th>
<th>Realized Net Income</th>
<th>Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount</td>
<td>Total Receipts</td>
<td>Amount</td>
</tr>
<tr>
<td></td>
<td>Million Dollars</td>
<td>Percentages</td>
<td>Million Dollars</td>
</tr>
<tr>
<td>$10,000 and over</td>
<td>39,011</td>
<td>85.1</td>
<td>10,544</td>
</tr>
<tr>
<td>$5,000 to $9,999</td>
<td>3,724</td>
<td>8.1</td>
<td>1,599</td>
</tr>
<tr>
<td>Under $5,000</td>
<td>3,132</td>
<td>6.8</td>
<td>2,098</td>
</tr>
</tbody>
</table>

Figures and headings taken from *Agricultural Handbook of Charts 1968*, no. 359, page 5.
viable as agriculture became even more capital intensive in the 20th century.²

The national government became involved with the disposal of land in 1784 when Virginia gave title to most of its land north of the Ohio River to the national government. By 1898, through various transactions and acquisitions, the United States contained 1.4 million acres of land, 72 percent of which was part of the public domain. Most of the public domain land which passed into private hands went into agricultural production. In disposing of this land, Congress dealt with four major questions: 1) the use of the revenue generated from land sales; 2) how to survey land; 3) the political status of the areas sold from the public domain; and 4) what the minimum price should be and the minimum size of the land lot an individual had to buy at auction. After initial arguments, consensus for decisions 1, 2 and 3 came quickly. Congress returned to the subject of land prices and the minimum lot size. Debate began in 1784 over the price and minimum lot size, really a component of the price question, and continued throughout the 19th century.³

This debate was in part philosophical and in part practical. On one side were the "conservatives" or Hamiltonians who wanted to sell large tracts of land for a high price. This suited their belief that the United States should be governed by the rich. One symbol of wealth was the ownership of land. The conservatives supported the sale of large tracts of public domain land to maintain this class of wealthy landowners. On the other side the liberals or Jeffersonians wanted to sell smaller tracts of land at a low price or even give land away. They envisioned the United States as a country of small scale
landholders operating their own farms. The liberals worked to reduce the minimum price of land per acre and the minimum number of acres one had to buy from the public domain. Four land laws-- the Land Ordinance of 1785, the Act of 1820, the Preemption Act of 1841, and the Homestead Act of 1862-- are demonstrative of the struggle between these two sides.4

The Ordinance of 1785 created the basic survey and sale system for the public domain, all of which was west of the Appalachian ridge, thus encouraging the development of agriculture on the frontier. Land was sold at auction originally in lots of 640 acres for a minimum bid of $1.00 per acre payable in cash upon purchase. Few settlers could afford to buy such a large amount of land. As a result, land speculation was a common occurrence as investors bought land wholesale from the government and retailed it in smaller units to actual farmers. Several adjustments to this law occurred. In 1820 the liberals were victorious in passing a major overhaul of the existing land law. The Act of 1820 reduced the minimal amount of land purchased at auction to 160 acres at a cost of $1.25 per acre. The success of these changes in disposing of the public domain can be seen in the increase of land sales. Between 1800 and 1819 only 16 million acres were sold, between 1820 and 1840, 75 million acres passed into private hands.5

Despite laws forbidding settlement in advance of the survey crews and necessary treaty negotiations with Native Americans, squatters pushed ahead of survey parties to establish homes and clear areas for cultivation. These squatters were not protected by any land laws. As their numbers grew, Congress had to deal with them by passing a series of temporary "pre-
emption" laws between 1799 and 1841. The general Pre-emption Act of 1841, gave squatters anywhere the right to file a claim for public domain land on which they had settled with the option of purchasing the land at the minimum price without competition before the auction. During these years the government continued to grant land to states and entrepreneurs in order to encourage the development of a transportation infrastructure, drain swamps and reward military service.\(^6\)

In 1862, the landmark Homestead Act gave every adult citizen or individual who was to become a citizen, and the head of a household a one time opportunity to claim up to 160 acres of available public domain land. At the end of five years, if the settler proved that he or she had built a house and developed the land, the government gave the settler a deed. The popularity of the Homestead Act can be seen in the large number of claims filed within the first five years after its passage. Settlers filed 82,610 claims for 13.2 million acres of public domain land. Later laws made other land available to settlers for a variety of purposes, with the net result that 787.4 million acres of the public domain had been sold or given away by 1933. This distribution of land had stimulated the development of agriculture.\(^7\)

By the latter 19th century the federal government had not only made the land base available but began to support ways to increase the yield from that base. The purposeful education of farmers began in the settings of agricultural societies found early in the nation's history. These societies helped to organize and disseminate information on new agricultural technology and better farming methods. The passage of the Morrill Act of 1862, at the same time as the Homestead Act, gave federal support to
educating farmers. The Morrill Act established public colleges "to teach such branches of learning as are related to agriculture and the mechanic arts." Twenty five years later the Hatch Act extended federal financial support to agricultural experiment stations whose mission was to "aid in acquiring and diffusing among the people ... useful and practical information on subjects connected with agriculture." The final piece of the education policy was put into place in 1914 with the passage of the Smith-Lever Act establishing the cooperative extension service whose charge was to offer practical demonstrations of new methods in agriculture and home economics.

Through the land-grant institutions, the agricultural experiment stations, and the extension service, the federal government encouraged the development of new agricultural technology. The land-grant colleges brought young farmers into the classroom to study farm management, agricultural engineering, field crop science, and animal husbandry through regular courses, short-courses, and winter agricultural studies programs. The experiment stations held field days to demonstrate the latest technology and cropping methods. Over the years land-grant institutions and experiment stations produced a large volume of information, such as crop reports, market outlooks, and research results which helped to increase the knowledge of farmers.

The results of this land development and educational/research effort can be seen in the productivity gains in the first half of the 20th century. In 1900 one farmer fed almost 7 people; by the end of the Korean War in 1953, one farmer could feed 18 people. As capital intensive inputs such as hybrid
seed, fertilizer and equipment replaced labor and land inputs, the percentage of the total United States population who listed farm laborer as their occupation dropped from 17 per cent in 1900 to 5 per cent in 1953. Even with this decline in the number of farm laborers, farm owners were able to continue producing more grain and livestock. The adoption of new technology kept increasing the productivity of farmers and the land. In 1900, 94,852,000 acres of corn were planted with a total harvest of 2,661,978,000 bushels. In 1953, farmers planted 80,459,000 acres to corn, a decline of over 14 million acres, and still harvested 3,209,896,000 bushels, an increase of over half a billion bushels. One of major reasons for the increase in yields was the adoption of hybrid corn seed. In 1933, .1 percent or 143,000 of all acres planted used hybrid corn seed. By 1953, 86.6 percent or 70,457,000 of all acres planted used hybrid seed corn. The development of the gasoline powered tractor was the greatest of all the agricultural technology breakthroughs as it permitted farmers to grow more grain and less hay and oats and to give up pastures land used for horses and mules. Tractors and associated cultivating, planting, and harvesting equipment allowed individual farmers to farm more land and to be more efficient in use of that land. In the years from 1910 to 1933 and from 1933 to 1953 the number of tractors on farms rose dramatically. In 1910 there were only 1,000 tractors, by 1933 there were 1,019,000 tractors, and by 1953 the number had quadrupled to 4,400,000. The number of corn pickers rose also but not as dramatically as in the first period. In 1920, farmers owned 2,882 corn pickers, by 1930 farmers owned 50,000 corn pickers, and by 1953
the number had risen to 630,000. The usage of fertilizer more than quadrupled from 5,110,000 tons in 1933 to 22,631,000 tons in 1953. While the adoption of technology, use of improved seeds, and application of fertilizer increased the productivity of individual farmers, they also increased fixed production costs. The Department of Agriculture noted in 1954 that farm production expenses increased almost four times from $6 billion in 1939 to $23 billion in 1952. Among the reasons for this rise was the increased dependence of farmers on industrial agricultural products. The option of purchasing agricultural technology presented farmers with a dilemma—to not buy the technology meant falling behind competitively, but to buy the technology meant either paying cash or finding credit at a reasonable rate of interest. Farmers who did buy hoped that the short-term financial strain would be justified by the long-term increase in the commodities sent to market. Farmers thought that having more to sell would translate into greater income. As more farmers invested in production-increasing technology, surpluses flooded the market causing prices to fall, and the expected increase in farm income never came. There developed a growing disparity between farmers net income and industrial workers net income. In 1910, net farm income per person was $139, at the same time industrial workers income per person was $482.00. By 1933 persons deriving their living from farming made on average $94.00 while the average among those individuals who were working in industry was $417. Farmers, farm organizations, and the federal government tried to identify solutions to the growing disparity between prices received for commodities
and prices paid for supplies and production inputs as well as the perceived low net farm income.¹⁰

From 1923 to 1929, Congress had debated the McNary-Haugen bill. The bill, based on the Peek Plan was introduced by two congressmen, Charles L. McNary, Senator from Oregon, and Gilbert N. Haugen, Representative from Iowa. The bill called for an increase in exports to raise farm commodity prices so farmers would have increased purchasing power. This idea of having a given unit of agricultural product, e.g. a bushel of wheat, have the purchasing power it did in the years on average from 1909-1914 came to be called parity. Parity establishes a ratio between the current buying power of a bushel of grain or an animal compared to what that bushel of grain or animal could have bought during a period when the purchasing power was favorable. For agriculture those favorable years fell between August 1909 to July 1914. The McNary-Haugen bill discussion influenced the Agriculture Adjustment Acts of 1933 and 1938. The bill was twice vetoed by President Coolidge, who believed farmers should not rely on the government for outright price support. Instead Coolidge signed the Cooperative Marketing Act in 1926. His successor, President Herbert Hoover agreed with Coolidge, refusing to advocate giving farmers direct financial support. Hoover, however, did agreed to the 1929 Agricultural Marketing Act.¹¹

The Cooperative Marketing Act of 1926 and the Agricultural Marketing Act of 1929 attempted to raise the price received by farmers for the commodities they sold through cooperative marketing ploys. The Cooperative Marketing Act of 1926 created the Bureau of Agricultural Economics and charged it with collecting and disseminating marketing
information to "associations of producers of agricultural products and federations" who were involved with the "cooperative marketing" of commodities. It was hoped by President Coolidge that the associations would be able to help establish fair market prices. The Agricultural Marketing Act of 1929 established a Federal Farm Board which lent assistance in educating farmers on the methods of cooperative marketing. The Farm Board was to conduct studies on a wide variety of topics: land utilization, new product development for existing surplus commodities, new domestic and foreign markets. The act also provided for the establishing of emergency "stabilization corporations" for commodities which needed assistance in controlling the flow of products to market. The corporation could buy, store, and sell commodities in surplus.  

These attempts to regulate the flow of products to market and assist agricultural producers in setting their own prices did not address the root cause of the problem--productivity increasing faster than demand. With the onset of the Great Depression a new attitude concerning the role of the government in planning and controlling the economic life of the nation resulted in the passage of sweeping social and economic legislation. The government's programs towards agriculture changed from suggesting how agriculture could help itself to voluntary programs of production control with cash incentives and rewards to farmers who participated. This policy was enunciated in the Agricultural Adjustment Act of 1933 (AAA 1), the Soil Conservation and Domestic Allotment of 1936 (SCDA of 1936), and the Agricultural Adjustment Act of 1938 (AAA 2). These three laws established
the foundation for what Heady would define as the "traditional farm program".13

The first Agricultural Adjustment Act and the Soil Conservation and Domestic Allotment Act established benefit payments and soil conservation programs as approved methods to "reestablish prices to farmers at a level that will give agricultural commodities a purchasing power with respect to articles that farmers buy . . ." This established a "parity index", a ratio between current buying power of a bushel of grain or an animal compared to what that bushel or animal could have bought during a more favorable period time. Farm organizations, farmers and Congressional allies believed that farmers should receive payments to bring current purchasing power in line with that of 1909-1914. Thus parity was an index of agriculture's "economic health". 14

The AAA of 1933 provided for cash benefits to farmers, tenants, and sharecroppers who agreed to store a portion of their crop under seal. In return for storing their crop the Secretary of Agriculture made direct benefit payments "in such amounts as the Secretary deems fair and reasonable . . ." to the complying farmer. The act also used the idea of marketing agreements with "processors, producers, associations of producers and others engaged in handling any agricultural commodity or product . . ." to control the amount of commodities produced and sent to market. Individuals or associations signing marketing agreements were eligible for loans through the Reconstruction Finance Corporation. To be eligible for the loans the producer had to agree to reduce production by 30 percent. To
pay for the benefits, the AAA of 1933 introduced a processing tax on initial handlers of those commodities.\textsuperscript{15}

In 1936, because of the processing tax, the Supreme Court, ruled the AAA unconstitutional. As a temporary relief measure, Congress passed the Soil Conservation and Domestic Allotment Act of 1936. This act was similar to the AAA in paying farmers directly to take land out of production. The act rationalized the payments for soil conservation as a way to "provide for the protection of land resources against soil erosion." States were to submit plans to the Secretary of Agriculture for approval and for distribution of funds to pay farmers who participated in the program. Section 2 of the law also retained the idea of "reestablishing farmers' purchasing power . . ." without specifying how, except to say the Secretary was to determine the level of "normal production" needed to met the domestic market demands.\textsuperscript{16}

The Agricultural Adjustment Act of 1938 (AAA-2) established a series of marketing quotas and parity scales to reduce the number of acres planted, to regulate the amount of commodities going to market, and to increase the buying power of farmers. The Department of Agriculture, using various formulas, monitored the domestic needs for commodities and the level of production by farmers. When a commodity was produced in excess of domestic needs, the Department could call for a marketing quota referendum. If two-thirds of the producers of that commodity approved, then individual acreage allotments were assigned. Allotments were based on previous acreage allotments, land base, labor, equipment, crop rotation
practices, etc. A complying farmer had to plant more than fifteen acres to receive an allotment.\textsuperscript{17}

The 1938 Act also established price supports for the basic commodities: corn, cotton, whole milk, tobacco, chicken eggs, farm chickens, hogs, beef cattle, lambs and wheat. The Secretary of Agriculture, working through the Commodity Credit Corporation, supported prices by use of loans, purchases, and production control payments. The farmers who participated had to agree to enroll in at least one of the following programs—acreage allotments, production goals, marketing quotas, and/or soil conservation practices—to be eligible for the government assistance. Farmers who decided not to participate could also receive price supports but at much lower levels. The level of price support was figured on a parity index.\textsuperscript{18}

If the Secretary of Agriculture decided to use cash incentives to limit the production of a commodity, the amount received by the farmer was based on the estimated average price for the commodity. Price supports could not be in effect for the same period of time a defeated marketing quota would have been in effect. If storage loans were available, the complying farmer would receive the loan through the Commodity Credit Corporation. If the farmer was unable to sell his agricultural commodities at the price support level or higher, the Commodity Credit Corporation acquired the surplus commodity and paid to store it or use it in a number of ways. The Secretary of Agriculture calculated the amount of each commodity for domestic needs.

For farmers AAA-1, SCDAA and AAA-2 brought benefits but also drawbacks that few realized at the time. The government program of the 1930s gave farmers money directly as well as indirectly through support
commodity prices. The programs also encouraged farm consolidation and expansion because larger farms received larger allotments and bigger payments. These farmers used the payments to buy more agricultural technology thus reducing the number of farm laborers needed. The efficiency of the farmer continued to increase which meant fewer farmers were needed and farm consolidation continued as some farmers were forced to leave.

World War II caused a raise in demand for agricultural commodities and prices increased rapidly. By 1944, American wartime agricultural production had reached a new high. For example, in 1944, 3.1 billion bushels of corn were harvested, the most corn ever picked for one year. Wheat farmers harvested 1.2 billion bushels, another all time harvest high. To encourage farmers to continue producing at record levels, the government passed several acts which maintained payments at a high level of the parity index. In 1941, the Steagall Amendment set price support at 85 percent of parity for corn, wheat, cotton, rice, and tobacco. For the first time a level of parity was guaranteed. The Emergency Price Control Act of 1942 raised the support level for the above commodities to 90 percent of parity. The 90 percent of parity was to remain in effect for two years following the end of the war. This increase in government support for agriculture prices help to raise the 1945 average gross farm income to $4,033, higher than it had been in the years 1929 to 1944. These two laws indicated a shift in government programs from restricting crop production to encouraging it.  

World War II revived the stalled agricultural economy. By the end of the war, 5 million people had left the agricultural sector for work in industry.
By 1950 the U.S. had 714,637 fewer farms than in 1940 and of the farmers left, only 12 percent earned $10,000 or more per year from the sale of their products. The largest group, 56 percent, earned only $2,500 or less from the sale of agricultural products. At the same time the cost of the farm program had grown and by 1957 the government annually handed out $1,015,842,000 in support payments which many farmers used to buy equipment to increase their production. Table 2.3 shows the growth in the total government payments to agriculture from 1933 to 1970. The government's payments increased seven times between 1933 and 1945. In the 12 years between 1940 and 1952, output per man hour had almost doubled. The increase in production was acceptable during the second World War, as much of Europe was not able to produce enough to feed itself. However, after the war, American farmers had a difficult time readjusting to demands of the domestic and foreign markets.

World War II ended in August of 1945, but the guaranteed high agricultural price supports carried on for two more years. In 1947 the debate, which would continue for twenty years, took shape as Congress prepared to write new agricultural legislation. The basic issue was whether to continue high fixed price supports, like the Emergency Price Control Act, or to give price supports a degree of flexibility. Flexible supports could be linked with changes in consumer demand. A fixed level of support would guarantee farmers a specific price.

Depending on the policy selected, price support programs could restrain the amount a farmer could sell or reduce the amount of land a farmer could plant. Another possibility was for the Department of Agriculture and
Table 2.3  Total Annual Government Payments 1933-1970

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Million Dollars(a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1933</td>
<td>131</td>
</tr>
<tr>
<td>1940</td>
<td>723</td>
</tr>
<tr>
<td>1945</td>
<td>742</td>
</tr>
<tr>
<td>1950</td>
<td>283</td>
</tr>
<tr>
<td>1955</td>
<td>229</td>
</tr>
<tr>
<td>1960</td>
<td>702</td>
</tr>
<tr>
<td>1965</td>
<td>2,463</td>
</tr>
<tr>
<td>1970</td>
<td>3,717</td>
</tr>
</tbody>
</table>

[a] This total includes payments for Conservation, Soil Bank, Sugar Act, Wool, Feed Grain, Wheat, Cotton, Rental and Benefits, Price Adjustment and Parity, Wartime Production Subsidy, Cropland Adjustment, and Miscellaneous programs such as the Milk Indemnity program.

Figures and headings taken from Table 21H of the July 1974 Farm Income Situation, FIS 224.
Congress to create a completely different policy and program. In the late 1940s and throughout the 1950s, Democrats usually supported high fixed price supports similar to the farm program already in place, while Republicans wanted to reduce price support levels and minimize the role of the government in farm affairs. Central to the debate was the policy of the 1930s reflected in the programs of restrained production versus the policy of "organized, sustained, and realistic abundance" of agricultural production proposed by the Department of Agriculture in 1947.21

1948 was a year of transition for agricultural programs. Congress, the Department of Agriculture, farm organizations and others still remembered the tumultuous years following World War I, when agricultural prices fell by 50 percent in a year. The Emergency Price Control Act guarantee, which was price support at 90 percent of parity until 1948, was one step taken to prevent a repeat of the price drops experienced from 1919 to 1921. The Agricultural Act of 1948 was a precarious compromise between high fixed price supports and flexible price supports. High price supports were to continue for one year and then the flexible price supports were to take effect. The election of Truman, a Democrat, as president in 1948, bought a return to the debate as the Secretary of Agriculture proposed a new agricultural program.22

In 1949, Secretary of Agriculture Charles F. Brannan who supported high parity levels, proposed to set price supports at 90 to 100 percent of parity, but there was a catch. Brannan suggested a cap on support payments. A farmer would be eligible to receive support payments on only the first $25,700 of commodities sold. He hoped that such a cap would even out the
unequal distribution of government support among small scale farmers who did not benefit monetarily from support payments. Table 2.4 shows the distribution of government payments based on sales classes. The table does show an unevenness in distribution of payments. His plan also called for price supports for perishables, such as eggs and fruit, but without production controls. Producers of these commodities could raise and sell all the produce they wanted to and the government would pay the difference between the sale price and the parity level price to the farmer. The American Farm Bureau approved of the high parity levels but was opposed to the dollar limit placed on the commodities covered. Instead of adopting Brannan's Plan, Congress passed the AAA of 1949.23

The Agricultural Adjustment Act of 1949 established flexible price supports which supposedly would encourage farmers to produce less by tying the level of price support to the level of production. If too much of one commodity was produced creating a surplus, the supports received by farmers were reduced. If the farmers reduced their production to be more in line with the needs of the domestic and foreign market, support would be increased. Organizations representing small farmers, such as the Farmers Union opposed flexible price supports while the American Farm Bureau, representing larger established farmers, approved of the plan.

With the election of Republican Eisenhower as President in 1952 the focus of agricultural policy changed from guaranteed parity levels to flexible price supports and limited government interference in agriculture. President Eisenhower and his Secretary of Agriculture Ezra Taft Benson firmly believed in flexible price supports and reduced government involvement in
## Table 2.4  Direct Government Payments by Sales Classes, 1960-1970

<table>
<thead>
<tr>
<th>Year</th>
<th>Farms with Sales</th>
<th>Total Government Payments in Millions of Dollars</th>
<th>Averages per Farm, Dollars</th>
<th>Percentage of Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$100,000</td>
<td>$40,000 to $99,999</td>
<td>$20,000 to $39,999</td>
<td>$10,000 to $19,999</td>
</tr>
<tr>
<td>1960</td>
<td>30</td>
<td>77</td>
<td>111</td>
<td>159</td>
</tr>
<tr>
<td>1965</td>
<td>147</td>
<td>310</td>
<td>487</td>
<td>627</td>
</tr>
<tr>
<td>1970</td>
<td>510</td>
<td>721</td>
<td>880</td>
<td>679</td>
</tr>
</tbody>
</table>

**Total Government Payments in Millions of Dollars**

<table>
<thead>
<tr>
<th>Year</th>
<th>$100,000</th>
<th>$40,000 to $99,999</th>
<th>$20,000 to $39,999</th>
<th>$10,000 to $19,999</th>
<th>$5,000 to $9,999</th>
<th>$2,500 and less</th>
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</thead>
<tbody>
<tr>
<td>1960</td>
<td>30</td>
<td>77</td>
<td>111</td>
<td>159</td>
<td>144</td>
<td>181</td>
</tr>
<tr>
<td>1965</td>
<td>147</td>
<td>310</td>
<td>487</td>
<td>627</td>
<td>396</td>
<td>488</td>
</tr>
<tr>
<td>1970</td>
<td>510</td>
<td>721</td>
<td>880</td>
<td>679</td>
<td>398</td>
<td>529</td>
</tr>
</tbody>
</table>

**Averages per Farm, Dollars**

<table>
<thead>
<tr>
<th>Year</th>
<th>$100,000</th>
<th>$40,000 to $99,999</th>
<th>$20,000 to $39,999</th>
<th>$10,000 to $19,999</th>
<th>$5,000 to $9,999</th>
<th>$2,500 and less</th>
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<tr>
<td>1960</td>
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<td>856</td>
<td>489</td>
<td>320</td>
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<td>94</td>
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<tr>
<td>1965</td>
<td>4,083</td>
<td>2,480</td>
<td>1,739</td>
<td>1,351</td>
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<tr>
<td>1970</td>
<td>9,273</td>
<td>4,051</td>
<td>2,566</td>
<td>1,741</td>
<td>1,003</td>
<td>414</td>
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**Percentage of Distribution**

<table>
<thead>
<tr>
<th>Year</th>
<th>$100,000</th>
<th>$40,000 to $99,999</th>
<th>$20,000 to $39,999</th>
<th>$10,000 to $19,999</th>
<th>$5,000 to $9,999</th>
<th>$2,500 and less</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>4.3</td>
<td>11.0</td>
<td>15.8</td>
<td>22.6</td>
<td>20.5</td>
<td>25.7</td>
</tr>
<tr>
<td>1965</td>
<td>6.0</td>
<td>12.6</td>
<td>19.8</td>
<td>25.4</td>
<td>16.1</td>
<td>20.1</td>
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<tr>
<td>1970</td>
<td>13.7</td>
<td>19.4</td>
<td>23.7</td>
<td>18.2</td>
<td>10.7</td>
<td>14.3</td>
</tr>
</tbody>
</table>

Figures and headings taken from 6D in the July 1974 issue of Farm Income Situation, FIS 224.
agriculture. In his first state of the Union address, Eisenhower endorsed "economic stability and full parity of income . . ." for farmers but with less government involvement, thus permitting farmers to shift with the changing consumer demands. Eisenhower announced the creation of a special "advisory commission" to study agricultural problems and to develop new solutions. Secretary of Agriculture, Benson put forth his plan, which reflected Eisenhower's attitude, for reducing government involvement in agriculture.24

Benson characterized his agricultural program as freedom for farmers to farm. The Benson Plan had five points. The plan recognized the drastic changes in agriculture because of new technology and the resulting increase in output per man-hour. Benson called for the elimination of support prices based on the 1910-1914 period in favor of support prices based according to recent prices paid by consumers. He hoped this would encourage farmers to adjust production in accordance with demand. Benson also argued that the old "price supports tend to prevent a balance between production and demand and result in continuing surpluses and subsidies." Benson wanted to expand the conservation reserve program by 8 to 12 million acres which would be available for cropping if the world situation called for renewed intensive farming. This plan called for the disposal of surplus food through humanitarian programs. Benson's Plan wanted to assist the small farmer by finding alternative income sources. Benson did include "disaster prevention" for times when economic and weather-related crises affected agriculture. Before coming to the government for assistance, he believed farmers should try methods of self
help, such as realigning production to be more in keeping with consumer demand. Benson's program with its reduction in support prices caused many farmers to believe that he did not understand their plight.25

Many farmers, farm lobbyists and their political allies did not understand Benson's actions and intentions. In a poll taken by the Wallaces Farmer in January 1954, only 18 percent of the farmers polled believed Benson was doing a good job as Secretary of Agriculture. One farmer noted, "The way I see it, Benson is selling the farmer down the river." Congress agreed with the farmers and Benson's plan was soundly rejected. As a result Congress, the Administration and farm organizations found themselves at an impass over farm policy regarding price supports.26

As the schism between the Congress, the Administration and farm organizations developed, a new policy or program for agriculture did not emerge in the 1950s. Politicians did not want to enact new legislation which would upset the farmers. Farm organizations were not united behind one single policy/program, so the "farm bloc" did not have the political power to force legislation through Congress.

With Congress and the administration at odds, agricultural programs were written year to year. Eisenhower proposed and Congress passed the Soil Bank Act of 1956 as an attempt to control production but without the government setting production quotas or marketing allotments. The program was voluntary and a farmer could put his land into an "acreage reserve" for at least three years with the maximum being ten years. The farmer would receive compensation for setting land aside.27
By the 1960s, agricultural interests were still debating the level of price supports. Congress and the Department of Agriculture had to decide whether to follow flexible price supports or high fixed levels of support. With the election of Kennedy, a Democrat as president, the focus of agricultural policy and programs came back to increased government involvement and a return to programs of price support and production control. The Kennedy administration believed the problem was the uncontrolled surplus. Its agricultural program called for "supply management" which used "marketing quotas, land retirement" and greater government involvement in farm operating decisions to try and raise farm income. Kennedy also wanted the power to write agricultural legislation transferred from Congress to the executive branch. This provision effectively killed the bill in committee. Kennedy had to rely on year to year agricultural programs. It was not until after the assassination of Kennedy and Lyndon Johnson took office that agriculture got its first long-term policy and program since World War II. The Food and Agriculture Act of 1965 was a compromise between continuing commodity support programs and supply control.28

Alternatives to the traditional farm program offered by critics ranged from returning the farmer to a free market standard to returning agriculture to small diversified family farms reminiscent of the 19th century. The major agricultural issue was no longer just price support levels but finding a solution to the problem of overwhelming surpluses caused by highly productive farmers. Wendell Berry in The Unsettling of America, called for a return to small family farms and the removal of the government from
agriculture. He wanted to break up large farms so that everyone could have a farm. In *The Successful Farmer*, the editor of the column 'Friend to Friend' noted "we have improved our farming methods to the point where we can produce a **surplus** of almost anything at **anytime** except in war. Prospects of increasing population catching up to productivity . . . are poor. The answer-- **fewer farmers.**" The article listed several alternative programs, and called for the adoption of Benson's suggestion of removing marginal farmers from farming and retraining them or improving their education so that they could move into the industrial sector. Edward Higbee in *Farms and Farmers in an Urban Age* examined the state of the farm in an era of intensive capital. He noted that government assistance was going to the larger farmers and the farmers on the other end of the scale, who could benefit from aid, received very little. Table 2.4 illustrates Higbee's claim. In 1960, for example, farms with sales of $100,000 and over received average payments of $1,304 while farms with sales of $2,500 and less received average payments of $94.29

Earl O. Heady, agricultural production economist at Iowa State University, believed the government's efforts in agricultural research and development were in conflict with the price support programs. He also asserted that the price support programs did not have an impact on the problem of low net income. Heady, a critic of the federal government's farm policies and programs that grew out of the 1930s New Deal centered much of his research during the 1950s and 1960s on the development of his own alternative program called the Positive Sum Concept. Heady's alternative proposed programs for both farmers and non-farmers.
Endnotes

1 The census definition of a "farm operator" is used as the basis for discussion for the thesis. The Census Bureau defines a "farm operator" as an individual "who operates a farm, either by doing the work himself or directly supervising the work." The bureau also classified farms by economic classes until 1974 when it changed to a classification based on value-of-products-sold. For the thesis, the old classification based on economic classes is used. The classes are $100,000 and over; $40,000 to $99,999; $20,000 to $39,999; $10,000 to $19,999; and $5,000 to $9,000 and $2,500 and less. Farms having sales of more than $2,500 are considered commercial farmers. U.S. Department of Commerce Bureau of the Census, 1974 Census of Agriculture vol. 2 pt.1 (Washington, D.C.:GPO, May, 1978), 17. U.S. Department of Commerce Bureau of the Census, 1964 Census of Agriculture vol. 2 pt.1(Washington, D.C.:GPO, May, 1968), 17.


19 For the Steagall Amendment see 55 Stat. 498. For the Emergency Price Control Act of 1942 amended, see 56 Stat. 765. These figures came from the government's September issue of the Farm Income Situation.


27 To read the text of the law see 70 Stat 188, May 28, 1956.

CHAPTER THREE: EARL O. HEADY POSITIVE SUM CONCEPT

Earl Oriel Heady was born and raised in Nebraska. He received both a bachelor's and master's degree from the University of Nebraska. In 1940 he joined the faculty at Iowa State College. Heady had a very distinguished career as an agricultural economist. In 1956 he was named the first Charles F. Curtiss Distinguish Professor in Agriculture at Iowa State College. During his career Heady received many honors; among them was his membership in the Soviet Academy of Agricultural Science; honorary doctor of science degrees from universities in Poland, Sweden and Hungary and a nomination for the Nobel Peace Prize. One of his lasting contributions to Iowa State was founding the Center for Agriculture and Economic Development in 1958. Heady joined with colleagues both within and outside the Iowa State College Agricultural Economics Department to form the Center to study the problems of agriculture and rural areas. Under Heady's guidance, the Center became a leader in the area of agricultural and rural development policies and programs. Now called the Center for Agriculture and Rural Development (CARD), its focus has remained the examination of agricultural policies and development on a global level.¹

Heady criticized what he saw as the "traditional" farm programs of the 1950s and 1960s because they focused on overproduction of commodities and low net farm income as the core of agricultural problems. Heady believed overproduction and low net income were just symptoms of the real crisis of agriculture, which was the unwillingness of farmers to adjust their production levels to reflect their ability to increase output from a given
number of acres by applying more technology. To prove this contention he used linear programming models. Heady was among the early pioneers in adapting linear programming to agriculture economics. In fact this adaptation was Heady's major contribution to the field of economics. In 1952 Heady wrote *Economics of Agricultural Production and Resource Use*. A reviewer in the *Academic Annals of Political and Social Science* called the book a "trailblazer". The reviewer for the *Journal of Farm Economics* noted that the book published the theory of linear programming "for the first time". The book would garner Heady honors from the Iowa State University Press for the outstanding book of the year and from the American Farm Economic Association, the "Outstanding Research" award. Linear programming uses mathematical equations to assist people in making decisions concerning the amount of a resource needed to accomplish a task. Heady used the mathematical equations to analyze the strengths and weaknesses of the government's agricultural programs and to compare his proposed programs with the government programs. ²

Heady thought that public policy makers needed the type of information linear programming provided in order to make sound policy decisions concerning agriculture. He believed the lack of such data created an inherent weakness in traditional farm policy decision making. Heady harped on this theme frequently in such works as *Roots of the Farm Problem* published in 1965 which was a "popularized version" of *Resource Demand and Structure of the Agricultural Industry*. "The results of our major study . . . should be useful to . . . administrators faced with developing agricultural policies consistent with the basic forces involved and further national
economic development; and to the public in its concern with the causes and consequences of major commercial farm problems and policies." Heady tried to help the general public as well as public policy-makers to understand the complexities of the farm problem. "The popular explanation of the farm problem has been that large output of agricultural commodities has caused low prices. But the large output is a result rather than a cause. The basic cause is to be found in the quantities and forms of inputs used." The "inputs" were the many new varieties of agricultural technology developed by the land-grant colleges and private companies. The adoption of the new technology created two problems that Heady identified as 1) "the surplus problem, with the tendency of output and commodity supply to progress faster than consumer demand for food" and 2) the capital substitution problem, in which changes in price relationships led to the "substitution of capital for labor." Overproduction and low net income were the symptoms of the disease of applying new technology to agriculture.3

What seemed wrong to Heady and others was that while the government, through its support of the Department of Agriculture, the extension service and the land-grant universities, and agribusiness, encouraged farmers to adopt the new technology which led to increased productivity and growing surpluses, the government also had a policy of trying to mitigate the results by price support programs for farmers and food relief programs for low income consumers. In Heady's terms, to use "programs of compensation" to "redress the general impairment of the farm economic position . . . " while supporting research and development to increase productivity cancelled out the intended goals for both programs.
The compensation programs attempted to control the flow of products to the marketplace or to restrict the number of acres planted in order to raise farmers' net income through scarcities. To Heady this did not address the problems but simply contradicted the federal government's research and development programs.4

Heady had complained about this as early as 1960. At the First Annual Farm Policy Review Conference sponsored by CARD he said, "On the one hand we have programs which pay farmers for the use of inputs which increase production. On the other hand, we give direct payments to farmers to lessen land and related inputs, as a means of decreasing output." The result was an unstated agricultural policy favoring "fewer, larger and more specialized farms and enterprises, a high ration or substitution of capital for labor, a smaller workforce and a greater dependence on effective management . . ." For farmers to survive in this environment they had to have a solid education, avail themselves of information on new technology and have a sizable source of ready credit. The government's price support program was supposedly to preserve the family farm which many people assumed was the smaller scale farm. Yet in reality the program aided the commercial farmers, only 30 percent of the farmers as defined by the Census in 1964. The lower income sectors of agriculture did not benefit. These small scale farmers were caught in a cycle of poverty; they did not have enough money or available credit to expand their farms, nor did they have at their disposal the skills necessary to get a good job off the farm. Heady contended the time was right for identifying and implementing new policies and programs.5
These changes would not be easy to institute. Conflict among the different agricultural interest groups "made it easier to patch up old legislation and go ahead, than to bring an entirely new formulation and orientation into being." Heady believed the agricultural interest groups should form a partnership with consumers to identify ways to strengthen ties between the two sectors. Heady believed without such a partnership the diminishing political power of agriculture over its own policy and program would force agriculture to face either a free market or strict control.6

Heady's version of the future agriculture program was discussed in the proceedings of the first annual Farm Policy Review Conference in 1960. The "purpose [of the conference he said] was to provide a forum wherein the goals and efficient means for farm policy might be discussed in objective fashion by persons and groups highly responsible in policy formulation." Accordingly, individuals from land grant colleges, the Department of Agriculture, Congress, agricultural interest groups and others were invited to participate. This first conference identified four goals that Heady believed should be included in future farm policy: 1) controlling of overproduction, 2) decreasing the size of the commodity reserve and the cost of reserve storage, 3) realigning farm policy to be more consistent with U.S. foreign aid policy, and 4) improving education and training opportunities for farm youth to provide them with alternatives in off-the-farm opportunities.7

Heady called his alternative agricultural program the Positive Sum Concept. Heady defined the Positive Sum Concept as "... providing conditions or supplementing income so that some people will not be made
'worse off' in income or welfare as other persons gain." Thus Heady's alternative tried to strike a balance between the commercial farmers who suffered under the traditional programs production restraints and the small scale farmer who did not have the money to buy technology to remain competitive. He also proposed ways to bring relief to the rural communities which were suffering from eroding tax bases as their surrounding farm populations began to decline and the needs for public services increased.

In a paper presented in 1968 at the World Congress for Rural Sociology, Heady called for sociologists, political scientists, economists, and educators to work together in developing a policy that would benefit everyone in the rural community. This total package was Heady's Positive Sum concept. His proposed rural programs would address the long-term symptoms of overproduction and a large surplus reserve of agricultural commodities through permanent removal of land from cultivation. Those farmers who participated in the program would be paid to leave farming, and would be assisted in retraining and relocating for employment outside agriculture. Depopulated rural communities would receive federal aid to bolster the eroding tax bases to maintain basic services such as hospitals, quality schools, and public utilities.

In a series of Center for Agricultural Economic Development (CAED) Reports beginning in 1963 and ending in 1969, Heady published the results of his linear programming analysis of traditional agricultural programs and his Positive Sum Concept. The object of each report was "to estimate the effect of several program alternatives on net farm income, government costs of supply reduction, consumer outlays for food and total public costs for
food and agriculture." An article in this series published in 1965 in the report of the fifth annual Farm Policy Review Conference typified Heady's work. The emphasis for the conference was the "performance of current farm policies" with the attendees proposing ways "which would allow farm policies to be better meshed with the nation's broader social and economic goals."

The main text of the conference paper was a study in which Heady demonstrated the impact of shifting crops from traditional regions of production to new regions where the crops could be grown most efficiently. He noted the production of some crops occurred in all sections of the nation without regard to cost of transportation and various measures of efficiency. Through the use of linear programming, Heady identified four crops, corn, soybeans, cotton, and wheat, that would make-up "central producing region[s]" which would bring maximum efficiency to these four crops at a lower production cost. The linear program model would first estimate how much land would be needed to meet domestic and export needs. The program model would determine the areas of the country where each crop would be produced most efficiently. Farmers in these regions would begin to specialize in that region's designated crop, limiting the production of other crops. The idea assumed the government would purchase land declared marginal based on soil type, efficiency of crop production, projected demand, projected surplus, and impact of technology on production. Heady assumed that farmers in regions losing crop acres would voluntarily sell their land to the government at a price per acre comparable to the average price of land in their particular region, prorated over ten years. At the end of the ten year
purchase period the government would own the marginal land. Land thus released from production could be redirected to "grazing, forestry and recreation." A large amount of retired land would be in the South and in the Great Plains. For communities in these areas Heady suggested income tax averaging during the period the program was in operation in order to even out the effects of the changes, extended state and federal assistance for schools, public subsidies for retraining and relocation, and a lower age for starting Social Security benefits. He also suggested that some rural areas might be appropriate regions for industry.  

In the final report of the series, CAED Report #34, published in 1969, Heady and two colleagues set out in explicit terms the cost of traditional and alternative agricultural program variations. The study encompassed three land program alternatives: a "government land use program with unrestricted location of unused cropland," a "government land use program with restricted location of unused cropland," and continuation of the traditional price support and loan program. When Heady spoke of a restricted program versus an unrestricted program, he meant the amount of land in a region which could be purchased, or rented outright or for which production rights could be bought. A restricted whole-farm land retirement government program could buy 50 percent of the farms in a region. For example if this program were in place, the government could go into the South, select marginal farms and purchase or rent, or buy the production rights to 50 percent of these farms. The unrestricted land retirement program did not limit the government to a percentage of farms from which it could purchase or rent the land or production rights in a geographical
region. To continue the above example, in an unrestricted program, the government could rent or buy production rights to all the marginal farms identified in the South. In the case of the unrestricted program, Heady expected the government to deal in whole farms rather than parts of farms. All programs analyzed operated on a voluntary basis. Farmers would receive payments over a ten year period. The amount of the payment would increase or decrease to reflect inflation and interest rates.11

Heady's group projected a core amount of acres that could be retired under a restricted program versus an unrestricted program. Heady estimated under an unrestricted program 57 million acres could be taken out of production from cultivation of major crops, while 55 million acres of major crop land could be retired under a restricted program. Most of the land retired whether under an unrestricted program or a restricted program would be concentrated in regions such as the South and the Great Plains. Table 3.1 shows the amount of land available for each of the programs. It also shows the cost of each program. For example if the unrestricted purchase program was in place, the annual cost would be $1.9 billion annually, compared to the current program annual cost of $3.4 billion annually. Heady's program would save $1.5 billion annually. Table 3.1 shows the annual cost of each alternative program and the current program.12

The unrestricted land programs, Heady noted, were similar to the Soil Bank Act of 1956 because both took land completely out of cultivation. If more farmers had participated in the Soil Bank, the similarities between the two would have been even greater, according to Heady and his
colleagues. The Soil Bank assisted "farmers to divert a portion of their cropland from the production of excessive supplies of agricultural commodities." Land set aside could not be harvested or grazed under normal conditions. However, under drought conditions, a state governor could waive this restriction and allow grazing to occur. The difference between the 1956 Soil Bank Act, other federal acts, and Heady's unrestricted land program was the duration the land was withheld from production. The Soil Bank land was out of production temporarily; at the end of the program the farmer could return the land to production. The unrestricted land programs took land out of production permanently. At the end of the ten years the government would own the land or the production rights to the land and payments to farmers would cease.  

When Heady calculated the unrestricted cropland model, he found that another 45 million acres could be freed from production of minor crops, pasture and grass in addition to the core reduction of 57 million acres. Thus 102.6 million acres could be available for a governmental land purchase program. Farms would be purchased at the average price of land in that region. The estimated ten year cost, if the price of land remained constant, would be $19 billion. The core amount of land retired under an unrestricted rental or purchase of production rights, could be supplemented by an additional 16.1 million acres for a total of 73 million acres. The cost of this program would be less than the traditional farm programs and the restricted land purchase program, because regions of lower quality land could be targeted for renting or the purchase of production rights. Rent or the purchase of production rights would be $16.10 per acre, for a total
Table 3.1  Land Totals and Government Cost Projections for 1975

<table>
<thead>
<tr>
<th>Core Acres</th>
<th>Additional Acres Available (minor crops, pasture)</th>
<th>Total Acres</th>
<th>Rent Per Acre</th>
<th>Annual Prog Cost billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thousand Acres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Unrestricted** Program:
- **Purchase**: 57,461 acres, 45,090 acres available, total 102,551 acres, rental cost $1.9 billion
- **Rent**: 57,461 acres, 16,090 acres available, total 73,551 acres, rental cost $16.10 per acre, $1.2 billion

**Restricted+** Program:
- **Purchase**: 55,333 acres, 49,520 acres available, total 104,853 acres, rental cost $2.18 billion
- **Rent**: 55,333 acres, 15,491 acres available, total 70,824 acres, rental cost $20.45 per acre, $0.14 billion

**Current Programs**: 50,902 acres, total 50,902 acres, rental cost $3.4 billion

* Unrestricted land programs would not limit the amount of land purchased or rented in a particular region.
+ Restricted land programs would limit the amount of land purchased or rented in a particular region.

Information compiled from charts found in CAED #34

Annual program cost of $1.2 billion. Allowing for inflation and increases in land value, the program would still cost less than the $3.4 billion for the traditional program. The $2.2 billion difference could be redirected to the rural community and to assist people in the transition to industrial employment. To assist farmers being bought out, he proposed a concurrent retraining program, to aid their transition to employment in the non-
agricultural sector at the end of the ten year period. Heady and his allies claimed that even with extreme increases in land prices, the current inflation rate, and the interest rate, his program would cost less than continuing the traditional program.\textsuperscript{14}

According to the linear programming model for the restricted land purchase program, an additional 49.5 million acres could be added to the 55 million core acres. The 104.5 million acres would include pastures, land planted to minor crops and grass, if the program was carried out on a whole-farm-basis. The cost of a restricted land purchase program would be $21.8 billion over a ten year period. Rent or purchases of production rights of the land would cost $20.24 per acre or $4.14 more than under an unrestricted program. The rise in total cost occurred because more productive land would be taken out of cultivation.\textsuperscript{15}

In analyzing the continuation of current programs, the group examined only the cost and impact on major crops. Using linear programming, Heady projected that in 1965, 51 million acres would be set aside under the traditional land programs at a total cost of $3.4 billion per year. Cost increases to the U.S. Treasury would be expected "as yields rise faster than costs per acre, net returns rise and the government cost of bidding land out of production also rises." However, continuing traditional farm programs would not solve the surplus problem. At the end of ten years, land set aside would go back into production, and the government would continue to make payments.\textsuperscript{16}

The second half of the Heady study explored alternative uses for the retired land in either purchase or rental programs. One alternative use
diverted the retired land to grass, trees and recreational areas. The second alternative permitted the retired land to be used for beef production.\textsuperscript{17}

Table 3.2 Land Totals for Increased Beef Production and Government Cost Projections for 1975

<table>
<thead>
<tr>
<th>Additional Cropland for Hay and Pasture (Thousand Acres)</th>
<th>Rent Payment (Dollars per Acre)</th>
<th>Annual Prog Cost (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted Program:</td>
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<td></td>
</tr>
<tr>
<td>Expand\textsuperscript{*}</td>
<td>33,652</td>
<td>10.43</td>
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<td>Maximum\textsuperscript{*}</td>
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<tr>
<td>Expand\textsuperscript{*}</td>
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<tr>
<td>Maximum\textsuperscript{*}</td>
<td>64,539</td>
<td>20.08</td>
</tr>
</tbody>
</table>

Information compiled from charts found in CAED #34
\textsuperscript{*}See endnote 17 for definitions.

Heady found that under an unrestricted program, where whole regions participated in the expanded beef program, open market beef prices would be $3.00 less per hundred weight than under "normal" beef production because more cattle would go to market as grazing acres were expanded. Even with this decline, Heady and his colleagues projected the government's payment to participating farmers in the rental/production rights purchase program would fall to $10.43 per acre under the expanded beef program. If a maximum beef program was instituted, the cost to the government, $15.42 per acre, would still be less than under the unrestricted rent/production rights purchase program without increased beef production. Table 3.2 shows
the amount of additional acres needed for grazing, the rent payment for that
land and the annual cost for each alternative.\textsuperscript{18}

With a restricted regional land program there would be less land
available for added beef production, thus the total cost of the program
would be lower than the unrestricted program. Prices per hundred weight
would be $5.80 lower than the "normal" beef production price. The
government, under a restricted expanded beef program, would pay farmers
$14.63 per acre. Under a maximum beef program the government would pay
farmers $20.08 per acre.\textsuperscript{19}

In the final analysis, Heady recognized the difficulty of finding an easy
solution to the problem of land retirement and the long-term effects of
surplus production. Heady noted that current programs would continue to
increase in the government's cost as technology increased the output per
acre and more land would have to be set aside to control the surplus
problem. In addition, the current programs did not provide aid to those
rural communities suffering from the impact of a declining farm
population. Heady claimed that his alternatives, whether restricted or
unrestricted, would eventually cost less, and provide funds for use in rural
communities. These land retirement programs, though, involved greater
government control in an area of the economy where individualism was
highly prized. The traditional program, also, had the advantage of being
diffused throughout the nation, whereas the alternatives would be
concentrated in specific regions.\textsuperscript{20}

Heady wanted to redirect the money saved through the alternative
programs to communities in the concentrated retirement regions to assist in
easing the strain of the readjustment period. The lack of a rural policy as distinct from the traditional farm policy, caused Heady to note, "commercial farm policy does nothing to redress those who suffer most and directly from the transformation of agriculture and a reduction of the farm work force and country population . . . the workers replaced by the new forms of capital and rural merchants whose sales volume dwindles with the farm population." To address these concerns, Heady's two-prong rural social policy would compensate farmers and rural community members who were displaced by the change. Heady envisioned a program which would provide these individuals with training opportunities, money to pay for relocation and other such programs. The second prong of the program proposed consolidation of rural political units so as to build a wider tax base for rural towns to draw upon for maintaining basic community services.21

Heady realized that the continuing substitution of capital-intensive mechanical power for family labor had also been given a boost by the high level of education farmers had been receiving through land-grant colleges and the extension service. These better educated farmers had the managerial skills necessary to operate at a higher level of credit and technology. As a result, policies were needed which would help individuals who were not able to perform at these higher levels move into industrial positions. A "survival of the fittest" selection would occur as the better skilled farmers would be able to stay profitable and all others would leave. For those leaving and for those staying, then, education was important.
Heady argued that rural children were the greatest farm product and must be given the education and skills necessary to take advantage of non-farm opportunities. The lack of educational opportunities in rural communities as a result of eroding tax bases prevented them from hiring the best teachers, maintaining existing structures, or building new facilities. The attitudes of parents and communities toward education, Heady believed, also influenced the performance of students in school. Heady strongly believed students had to finish high school. Through "improved educational, counseling . . ." he hoped more rural youth would stay to graduate. Heady proposed using governmental research money for a rural public education project. In addition, programs of education outside the Department of Agriculture could be used to bring uniformity to the experiences of urban youths and rural youths. Head Start, Job Corps, and other such programs held possible solutions for the improvement of the educational opportunities of rural youths. 22

Farm laborers who left farming with little compensation faced an uncertain future because they lost their livelihood. "While the public, through its development policy, strides forward in replacing workers from agricultural and other activities of the rural community, it has no actual systematic compensation policy to retrain people, guide them to new jobs, and redress sacrifices they otherwise make." Heady's social policy would provide a variety of services to farmers. He envisioned a system of several stages through which an individual could move. The basic stage would assist the displaced farmers in deciding whether or not to stay in farming. For those who decided to leave, Heady's policy would create severance pay,
retraining centers modeled along the lines of the GI on-the-job training program, and relocation centers which would offer information on living elsewhere and jobs available in that region. Heady suggested "programs could be implemented at the national level to establish Area Developmental Districts", which would bring "diversified industry" to areas of low income. This would siphon excess labor off the farm and into industrial jobs without depopulating the countryside.²³

For the older farmer, Heady proposed a series of monetary awards to leave farming. For these individuals who lacked transferable skills, or wished not to participate in the program "a system of retirement benefits and compensation payments" would help ease the transition. Heady's retirement program would be similar to the government's Social Security system or the pension plans of private companies.²⁴

Heady's program was complete in that it addressed the problems of agriculture and individuals living in rural areas. His permanent land retirement program offered a solution to reducing surpluses. The retraining and relocation programs sought to relieve the pressure unskilled farm laborers would put on the urban areas if they had to leave farming.
Endnotes

1 Biographical information gathered from Earl O. Heady's papers in the Iowa State University Parks' Library Special Collections.

2 Linear economic modeling was developed in 1938 by J. Von Neuman, a German economist. Von Neuman's treatise was translated into English in 1945. Linear economic modeling follows a commodity through alternative methods of production examining the fluctuations in the demand for labor, the cost to produce and the time involved with each input/output alternatives. Gee Wilson, review of Economics of Agricultural Production and Resource Use, by Earl O. Heady, Annals of American Academy of Political and Social Sciences 28(Spring 1953), 192. David L. MacFarlene, review of Economics of Agricultural Production and Resource Use, by Earl O. Heady, David L. MacFarlene, review of Economics of Agricultural Production and Resource Use, by Earl O. Heady, Journal of Farm Economics, 35(August 1953): 444.


10 Heady, CAED Report 22, 21, 22. There would be regions for corn, soybeans, cotton, wheat. Regions would be scattered throughout the nation.

Heady, CAED Report 34, 9-10, 16.

See Heady, CAED Report 34, 7 and the Soil Bank Act of 1956, 70 Stat 188, sec. 103. A farm's base or acreage allotment was based on the amount of tillable acreage, crop rotation practices, type of soil and typography. This formula was set up in the Soil Conservation and Domestic Allotment Act of 1936, 49 Stat 1148, February 29, 1936.

Heady, CAED Report 34, 10, 12.

Heady, CAED Report 34, 16.

Heady, CAED Report 34, 21, 22.

Heady provided these definitions of his beef/land alternative model- Normal Beef... where land retired from production is not used for additional beef production and remains idle under all government programs analyzed. Expanded Beef refers to the government voluntary easement program... where one-half of the excess cropland... is converted to pasture and hay and used for additional beef production. Maximum Beef refers to the government's voluntary easement program... where all excess cropland is converted to pasture and hay and used to produce additional beef.

Heady, CAED Report 34, 28, 31, 34.

Heady, CAED Report 34, 36, 37.

See Heady, CAED Report 34, 45, 46, 47.


CHAPTER FOUR: WOULD IT HAVE WORKED?

Heady's proposed Positive Sum Concept was intended to bring a permanent long-term solution to the problem of surpluses. Low incomes for farmers have been blamed on the surplus commodities depressing market prices. Farmers who wanted to get ahead and could finance it, adopted new methods and equipment to produce more. With more produce going to market, market prices declined and farmers had to produce more to maintain their level of income to cover their rising fixed production costs. The government tried to bolster farm income through price support programs, but the programs just treated the symptoms not the cause of the problem. Heady tried to get at the root cause as he understood it, the lack of adjustment by farmers to the expanding productivity of the acquired technology. Heady's plan would have severely reduced the land base available to technology, and reduced the number of farmers to share the market returns, thus farm income would be raised at less cost to the government than the traditional farm program.

Price supports, through production quotas, and soil conservation set aside reserves were trademarks of the farm legislation of the 1930s. These ideas were put forth and supported by agriculture's special interest groups, and the congressmen from farm states who called themselves the "Farm Bloc". Each piece of legislation was meant to aid in raising the level of farm income. While the program benefitted the larger commercial farmers, it did little to aid the smaller scale farmers. Instead of removing unneeded and therefore excessive land and labor from agriculture, land and labor
remained ready to go back into production whenever a land reserve program or a production quota ended.

Heady wanted to redefine the problem of agriculture. He saw the problem in terms of annual adjustments, which caused parts of each farm to be underemployed with government payments paying for the idleness of labor, land and equipment. Heady's Positive Sum Concept proposed adopting a new program based not on past performance, but instead on the quality of the land being farmed and the projected future needs of consumers. Heady developed formulas using linear programming models to assist him in selecting regions where such land retirements would be most beneficial. Heady aimed at removing marginal farmers and their farm laborers from agriculture into industrial jobs. Heady believed such readjustment would bring agriculture to a situation where the new technology could be used to the fullest and the resulting product could go to market at "fair" prices for farmers who would also have higher incomes. The rural aid portion of the proposed Positive Sum Concept, through retraining and relocation, aided farmers who voluntarily participated in the program. It also assisted rural communities which suffered from erosion of their population and tax base. Heady hoped to fund this component of his program with money saved from the land retirement program.

Agricultural organizations appeared apprehensive over Heady's proposed permanent retirement of land. Farmer organizations voiced concern over reliance on a single program. The National Farmers Union was concerned about Heady's projection of a lower total net farm income as a result of his program. The November 1968 issue of the National Farmers
Union's Washington Newsletter briefly commented on Heady's land retirement program saying that the national net farm income would drop $2.3 million. The National Farmers Union was also concerned with the effect of land retirement on rural communities.1

But it was the Ad Hoc Committee for a Better Agricultural Policy interpretation of CAED Report #34 which brought inquiries about and criticism of Heady's work in analyzing farm programs. The Ad Hoc Committee had approached Heady and CAED with a formula it wanted run through a linear programming model. Heady agreed to run the model with the understanding that he could publish his own interpretation of the results as a CAED report. He published CAED Report #34 in April of 1969. This committee published its pamphlet entitled "The Easement Approach to Agricultural Adjustment: an Interim Report" in April 1969 also and cited Heady as the economist responsible for the analysis. It was the Ad Hoc Committee's report that caused the National Cattlemen's Association to express concerns and demand Heady explain himself. In a series of letters, in 1969, between Heady and Bill House, President of the American National Cattlemen's Association and James Stevenson, President of the Iowa Beef Producers Association, Heady found himself explaining his analysis and defending his right to make it and to criticize current agricultural policy. In July of 1969, House requested Heady, to "see fit to work with Iowa agriculture and not let surplus crop acreage be used to wreck the cattle and beef industry." In his reply, Heady defended his right to study agricultural policy and sent House copies of CAED Report #32, CAED Report #34 and other CAED reports relevant to the topic, and he wrote "I look forward to
hearing from you again after you have seen our publications and made your personal appraisal of my objectivity." In August 1969, Heady wrote Stevenson, "Frankly I believe you and others benefitted by having these figures computed so that you can know what the expected result is under each alternative." He offered to meet with Stevenson and to test the beef producers' suggested alternatives through the same linear model. ²

Heady appeared to be taken aback by the criticism that he was trying to destroy the beef industry, when the results indicated that maximum beef production on land set aside from cultivation would not be beneficial. Heady appeared to have retreated behind a role of a detached observer, merely analyzing the current farm program and proposing alternatives to it. Heady would run alternatives through the models for any organizations, with the understanding that he could interpret the data and publish those interpretations in the form of a CAED report. The Ad Hoc Committee used the same data but with a different interpretation which resulted in the outcry by the beef producers. The Ad Hoc Committee appears to have used Heady's name to bring attention to its work. The use of Heady's name in connection with this pamphlet brought serious allegations by the beef producers about the intent of Heady's works. In a final letter to Heady, Stevenson wrote, "Your objectivity, scientific methods, summaries and findings, I believe are beyond reproach. I was concerned that perhaps you had laid aside your role as a scientist and was now attempting to influence policy . . ." Heady was able to diffuse a situation which might have damaged any further efforts in analyzing farm policy.₃
The beef producers were not the only individuals to express reservations concerning Heady's work. In 1961, Heady came under attack from a fellow agricultural economist James G. Maddox. Heady along with Lee G. Burchinal had prepared and presented a paper entitled "The Concern with Goals and Values in Agriculture" at a CARD conference on Goals and Values in Agricultural Policy. Their paper outlined the conflict between goals and values in development of farm policy. Maddox was the discussant for the Heady-Burchinal paper. In his discussion, Maddox credited Heady and his co-author for attempting to demonstrate the impact goals and values have in the arena of policy-making. But he criticized the authors for trying to eliminate policy-making conflict by being too general in their statements of goals and values.

Heady came under fire later in the 1960s when a book reviewer in the *American Journal of Agricultural Economics*, Gene D. Sullivan wrote that the book, *A Primer on Food, Agriculture and Public Policy*, offered nothing "new or unique" but it did offer points of disagreement. The point that bothered Sullivan the most was the arbitrary manner in which Heady set a poverty line for deciding which farm people were poor and should be removed from the land. Sullivan wrote, "... many so determined 'poverty stricken families' have the financial means of acquiring the mechanical conveniences that they are pitied for not having. They simply have a ... preference for saving. How much beyond adequate nutrition, clothing, and shelter must families have before they can escape this poverty classification?" Sullivan was not convinced the retraining programs would actually prevent dislocated farm families from going on welfare rolls once they moved to the
urban center. In fact, Sullivan thought it would add an extra burden to existing problems. 4

Were Heady's permanent land retirement alternatives too radical to be acceptable to the general public? When he originally proposed the Positive Sum Concept, land ownership, control of one's own destiny, and the freedom to plant whatever a farmer chose were still key ideals in American agriculture. It was hard for people to understand how buying producing rights, and not using them or purchasing a person's farm to keep it idle, and forcing a farmer to go into the industrial sector were good. While Heady's plan would cut back on the number of producing farms, and the amount of land under cultivation, it also reduced the number of family farms. Family farms have been the mythical cornerstone of American agriculture.

Heady believed it would be difficult to change agricultural policy. The farm organizations had individual agendas and compromise between organizations would mean departing from those agendas. As with all new proposed programs, farm organizations would either support Heady's proposal or oppose it. In the case of Heady's program the American Farm Bureau supported it because it favored the eventual elimination of government involvement in agriculture. The National Farmers' Union opposed it because it would eliminate small farmers and have a negative impact on small towns. Heady's program would have entailed compromise among these two organizations and the other agricultural organizations, but with an agricultural program in place, these organizations did not have
to come together to support parts of the Heady proposal which agreed with their agendas.\textsuperscript{5}

Heady's long-term solution also ignored the realities of an American political system that would rather maintain a program than spend time bringing together opposing parties to work out a new policy and program. While the existing program, did have major flaws, it worked for the most part. Participating farmers in all regions of the country received payments. They could continue to farm, the government did not require them to quit to receive payment. The one major flaw was the favoritism of commercial farmers over small scale farmers. The agricultural program in place during the 1960s and even today, had its roots in the legislation of the 1930s. The persistence of the major features of the program, may be due in part to the establishment of a bureaucracy in the Department of Agriculture which had a vested interest in continuity of program and funding level.

Heady's program would have called for a major reorganization of the Department of Agriculture and its purpose. It would have had to change from a lending agent to a mortgage agent. The functions of education and outreach would have had to be shared with other departments in adapting their programs to agriculture. The Department would have to maintain its functions in research and development for agriculture and had to add to its charge the job of policing the remaining farms for indications of increased production so that further removal of marginal land could take place as production began to outpace domestic and foreign demand.

One of the flaws of traditional agricultural policy was the lack of projection into the future. Payment formulas were based on past demands
and income levels of farmers. The AAA of 1933 and 1938 depended on a parity index which compared current buying power of agricultural commodities to the buying power of those commodities in the period between 1910-1914. Farmers' acreage allotments were based on their regional crop production performance of the previous ten years. Heady's policy took into consideration future growth of agricultural productivity through the adoption of new technology. His programs used the data generated through linear programming models to make recommendations concerning the size of the land retirement program, and the location of the regions for major land retirement. Heady never published a figure of how many farmers and farms were involved with his program. It was the same problem he had with the goals and values. Heady generalized the program to a point where it ignored the conflict involved. His arbitrary manner in setting levels of income and other monetary figures he used ignored the human factor, which does not respond according to economic theory, such as psychic rewards of being one's own boss, working outdoors and working with livestock. Heady relied upon the same type of constraints the Department of Agriculture worked under, neither party had a crystal ball. The difference between Heady and the Department was the use of the information and interpretation of the data.

Any type of future forecasting had to be done with an understanding that there were limitations. In the case of the Positive Sum Concept such limitations carried significant weight in the implementation of the program. Incorrect forecasting could result in even greater surpluses of commodities
on the market or severe shortages of basic commodities. This had to be one of the major drawbacks of the proposal.

Heady's program encouraged intensified farming of the land which remained in production. This included the use of fertilizers, herbicides, intercropping, and rotation of crops to increase productivity. Even with the rotation of crops and use of chemicals, the soil of these remaining farms might have lost its ability to produce. Heady did not make provisions for this possibility. If land put into permanent retirement was brought back into production to substitute for this land, the premise of Heady's program would be destroyed. Heady's program would be a long-term version of the annual adjustment program with a twist. The government would probably decide which land would go back into production. Farmers who were transferred from working farms with modern facilities would have to receive some type of compensation for setting up new facilities and bringing improvements to the idle land. There is the other side of this concern. With the advent of new technology and improved farming methods, productivity could increase to the point where more land would have to be taken out of production. So conceivably this program could become a continuous program, perhaps not an annual program but maybe a once a decade type program.

The rural community component of Heady's program was dependent on the complete adoption of the land program. A program which combined annual land adjustments and permanent land retirement might not have saved enough money to be diverted into rural community programs. Thus retraining and relocation would continue to be deficient or carried out by
agencies outside the Department of Agriculture. These agencies had other mandates and financial restraints which might have hindered the efforts in rural areas. The rural component also encouraged consolidation of rural communities and services as a way to strengthen public services. Consolidation has not been well received by rural areas. Although Heady predicated the need to consolidate towns, school districts and even extension area offices, these changes came with resistance and political maneuvers to foil them. Heady was born in a small community in Nebraska. He should have realized the importance of rural communities to the areas farmers and to the people who lived in the towns. Heady's program based on stark facts and mathematical models ignored human feelings and did not give individuals choices of alternatives.

Heady's program was idealistic. Heady believed that agricultural policies and programs had been based on past programs or assumptions without sufficient study of the impact on farmers and rural communities. Unfortunately, Heady did not carry through on his complaint. In the studies, articles and speeches read for this thesis, Heady did not give a number of farmers and farms his program would effect. This flaw seriously damages the credibility of the proposal. It also gives rise to the speculation that Heady was merely playing with linear programming models and was not trying to influence policy making. This speculation is probably accurate in its conclusion, yet in Heady's correspondence there are letters indicating he had met with Department of Agriculture officials, and he did serve on several White House committees looking at the economy as a whole. He was meeting with the public officials who created the policies and programs,
Although his role was as an economist reporting his findings from the analysis he had completed on a subject. There is no evidence that he was presenting his plan to the officials during these meetings. Certainly in speeches he delivered to various farm organizations, such as the National Farm Institute, the National Silo Association and the Farmland Industries, Heady alluded to his ideas but the lack of correspondence from these groups hinders any attempts to gauge their response to the Positive Sum Concept.

As Heady noted it was easier to patch up the old, instead of trying to develop the new. He hoped these studies, based on data, would start discussions among farmers, politicians, and others who would write the agricultural policies. In an article in the Kansas City Star, Roderick Turnbull, the agricultural editor for the paper, commented on CARD Report #34, writing "The report while it may not be the Bible ... deals almost entirely with the economics of the situation ... certainly can form the basis for an educated discussion." Heady would have hoped the results of such a discussion would benefit both farmers and other rural community members in a positive sum manner.
Endnotes

1 Editorial, National Farmers Union Washington Newsletter, 15 November 1968.


6 "Background Given for a New Farm Program." Kansas City Star, 24 November 1968, sec. 7D.
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TJ Lusher

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