SOIL CONSERVATION PROVES PROFITABLE TO FARMERS

Greater production on fewer acres with less labor and equipment is the typical story of Texas farmers who have inaugurated and carried through complete soil conservation programs, according to a report recently released by the Soil Conservation Service of the United States Department of Agriculture. This report was based on a sample of 1,400 operators of farms drawn from the 27,736 such operators in various parts of the State who have been assisted by technicians of the Soil Conservation Service in planning and establishing complete soil conservation programs. The farm operators covered by the report have followed conservation plans which varied from 70 to 100 per cent established for periods of two to six years.

Many of these farm operators reported that both per acre yields and total production rose sharply after the application of the planned practices, according to Regional Conservator Louis P. Merrill of the Soil Conservation Service. On 12 per cent fewer acres these 1,400 farmers produced 49 per cent more wheat. The group as a whole increased production of grain sorghum 62 per cent, corn 30 per cent, legume hay 86 per cent, and peanuts 112 per cent. Moreover, 475 of the group reported that the conservation program as applied on their farms had brought about a total annual cash saving of $58,256 in labor and use of farm machinery.

The practices followed in this program which resulted in such increased yields covered a wide range and were adapted to the varied locations and conditions of the different farms. They included the establishment of proper crop rotations to aid in the control of weeds and grasses and at the same time to increase the amount of organic matter and nitrogen in the soil through the use of legumes as green manure crops; the application of fertilizers and lime where necessary; the improvement of irrigation and drainage systems; the control of erosion through use of cover crops, strip cropping, contour cultivation, construction of terraces, and, in some instances, retirement of cropland to permanent pastures or wood lots.

The following averages taken from the records of the selected sample of conservation farms are, according to the report, typical of acre yield increases achieved by all the farmers participating in the program:

<table>
<thead>
<tr>
<th>Crops</th>
<th>Before Conservation</th>
<th>After Conservation</th>
<th>Per Cent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton (Lb. Lint)</td>
<td>182</td>
<td>220</td>
<td>21</td>
</tr>
<tr>
<td>Wheat (Bu.)</td>
<td>7.7</td>
<td>13</td>
<td>69</td>
</tr>
<tr>
<td>Grain Sorghum (Bu.)</td>
<td>17</td>
<td>26</td>
<td>53</td>
</tr>
<tr>
<td>Corn (Bu.)</td>
<td>19</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>Peanuts (Bu.)</td>
<td>14</td>
<td>19</td>
<td>36</td>
</tr>
<tr>
<td>Legume Hay (Lbs.)</td>
<td>3,880</td>
<td>4,420</td>
<td>14</td>
</tr>
<tr>
<td>Other Hay (Lbs.)</td>
<td>3,000</td>
<td>3,940</td>
<td>31</td>
</tr>
</tbody>
</table>

These impressive increases in crop yields per acre have been accompanied by an increasing diversification of farm crops, according to Mr. Merrill. Erosion control measures embraced in the over-all conservation program have resulted in the growing of both erosion-resisting and soil-improving crops, and in the addition of some new cash crops. There has also been a significant shift in land utilization. Some formerly idle acres have been put into production, and some croplands of submarginal productivity have been retired to pasture or woodland. This general shift has resulted in some over-all reduction in cropland and woodland but an increase in pastures and ranges.

The decrease in total acreage of farm woodland does not indicate a decrease in the farmers' profits from such land. On the contrary, according to this report, selective cutting and fire protection, which are important parts of the conservation program, have in-
creased the productiveness of farm woodland. Production of pulpwood is estimated to have increased about 40 per cent, while saw logs have increased several hundred per cent. Posts and rail ties also are reported to have increased substantially.

The report also discusses the benefits which the conservation program has brought to the farm livestock industry. Through seeding recommended pasture mixtures, application of fertilizers, eradication of noxious plants, and the practice of other pasture improvement methods, the livestock carrying capacity of pastures is reported to have risen 41 per cent an acre and of ranges nine per cent an acre. By the use of idle acres and as a result of the increased yields of feed and hay and the improvement and extension of pastures, farmers and ranchers have been able to establish or expand livestock enterprises. The number of cattle on these farms where conservation practices have been adopted increased about 35 per cent; dairy cows increased 32 per cent, and milk production, 54 per cent. Also, there have been gains in the number of other livestock. Brood sows increased 55 per cent, pigs 78 per cent, ewes 25 per cent, and chickens and turkeys 50 per cent.

The results achieved by J. O. Westmoreland of Nacogdoches are typical of those reported by other farmers adopting conservation programs. Ninety-eight per cent of the conservation practices planned for the Westmoreland farm are established, and most of them have been in effect seven or eight years. Erosion has been controlled, rainfall conserved, and soil fertility increased. Before the establishment of the conservation practices on this farm, 264 bushels of corn were grown on 22 acres; now 325 bushels are grown on 13 acres. Formerly 5,750 pounds of lint cotton were harvested from 23 acres, compared with 6,600 pounds now harvested from 20 acres. Among new crops introduced on this farm were peanuts and sorghum. The carrying capacity of pastures was increased, and the acreage extended. This Nacogdoches farmer also reported that the establishment of the conservation program has resulted in an annual cash saving of $200 in labor and use of equipment.

Similar results have been observed on the A. F. Cox farm, near Dumas, in the High Plains area. A conservation plan for this farm was first drawn in 1938, and at the present time most of the plan has been put into effect. As a result, erosion has been controlled and rainfall conserved. Also, yields of wheat, oats, and grain sorghums have improved substantially, and the carrying capacity of the pasture on this farm is reported to have increased about 48 per cent.

On the Albin Mika farm, east of San Angelo, where a complete conservation program has been in effect for about five years, it is estimated that cotton yields have increased 60 per cent, grain sorghum 50 per cent, oats 20 per cent; while the livestock carrying capacity of the pasture has risen 10 per cent. In the opinion of this San Angelo farmer, the establishment of the soil conservation program on his farm has resulted in a cash saving each year of about $200 in the cost of labor and equipment.

The results of this survey clearly show that the establishment of a well planned conservation program can result in increased profits to the individual farmer as well as benefits to the community as a whole. Increased production and lowered costs point the way to the development of a sound agriculture and the improvement of rural communities.

**COTTON RESEARCH CONGRESS HOLDS ANNUAL MEETING**

"Cotton—A World Force" was the theme of the Seventh Annual Meeting of the Cotton Research Congress held in Dallas, July 8-9. Amos E. Taylor of the Department of Commerce and Ben J. Williams of the American Cotton Shippers Association stressed the importance to the cotton industry of removing restrictions on world trade and establishing monetary exchange and prices which will move American goods in a free competitive market. Both speakers pointed out that the fate of American cotton is closely linked with the trade of the nation and of the world, and that it is necessary to recognize foreign trade as a two-way affair if we are to continue to sell a large volume of goods abroad. Joel F. Hembree of the University of Arkansas discussed the geographic, technological, and economic bases of a sound national cotton production policy, and Lamar Fleming, Jr., of
Anderson Clayton Company discussed some of the barriers to the establishment of such a policy.

At the fourth session of the Congress, special attention was given to the production of cotton in Texas and to the problem of lowering the cost of production. Mr. George G. Chance, farmer of Bryan, Texas, stated that there were indications of dissatisfaction on the part of farm laborers and tenants with farming conditions in general and that unsatisfactory living conditions on farms have resulted in an increasing migration of farmers to towns and cities. He stated further that "cotton farming as now practiced is relegated to act as a labor reservoir for industry and other manpower users." Both Mr. Chance and Mr. F. O. Masten of Martin, Texas, pointed out the feasibility of bringing down the cost of producing cotton in Texas through the use of mechanical equipment. This procedure would, in their opinion, offset the declining supply of farm labor and make possible wage returns to farm workers comparable with those of skilled labor in industry.

The possibility of speeding up cotton harvesting and thereby reducing losses, particularly in the High Plains area, was discussed by Mr. Don L. Jones of the Texas Agricultural Experiment Station at Lubbock, who advocated the use by cotton growers of power driven strippers, storm proof varieties of cotton, and chemical defoliation.

FARM CREDIT

Farm Mortgage Debt Continues to Decline in the United States

Total farm mortgage debt for the United States at the beginning of 1946 was estimated at $5,081,000,000 in a report recently released by the United States Department of Agriculture. This represents a decline of about 4 per cent during 1945 and of approximately 23 per cent since 1940. It is less than one-half of the peak indebtedness of $10,786,000,000 in 1923, and is the lowest figure which farm mortgage debt has reached since 1915. The decline in total mortgage indebtedness since 1940 is in sharp contrast with developments during and after World War I, when the debt increased 43 per cent between 1915 and 1919.

Farm mortgage debt held by Federally owned or sponsored agencies declined 14 per cent during 1945, with the result that these agencies now hold about 30 per cent of the total of such debt, compared with 33 per cent at the beginning of 1945. Mortgages held by insurance companies declined 5 per cent and now constitute only about 17 per cent of the total. Mortgage holdings of banks and other institutional and individual creditors increased about 4 per cent and now account for about 53 per cent of the total debt.

Considerable variation in the trend of farm mortgage debt was evidenced among the five southwestern states all or parts of which lie in the Eleventh Federal Reserve District. In Texas the total of such debt declined 12 per cent during 1945, and in Oklahoma 5 per cent. By contrast, in Arizona the debt increased 3 per cent, in New Mexico 6 per cent, and in Louisiana 7 per cent. The amount of farm mortgage debt held by federally owned or sponsored agencies declined during 1945 in each of these five states, and the portion of the total debt now held by these agencies varies from about 25 per cent in New Mexico to about 56 per cent in Texas.

FARM MANAGEMENT

Production of Insecticide Supplies Affected by Strikes

Supplies of calcium arsenate are critically low, due principally to strikes in the mining and smelting industries, according to a recent statement by L. S. Hitchner, Executive Secretary of the Agricultural Insecticide and Fungicide Association. There were large stocks of calcium arsenate in the hands of manufacturers and dealers last September, and it was thought that these, plus normal domestic production and anticipated imports, would provide adequate stocks with ample reserves. Strikes, however, have kept production below normal, and the imports previously expected have not materialized.

Alertness on the part of farmers in inspecting fields and the prudent and economical use of insecticides will aid in conserving the current short supplies of calcium arsenate and other chemicals needed in the control of insects.

Fertilizer Requirements Estimated

The United States Department of Agricul-
ture has recently estimated that 800,000 tons of nitrogen, 1,850,000 tons of available phosphoric acid, and 800,000 tons of potash will be required to meet demands for fertilizers in the crop planting year beginning July 1, 1946. The National Fertilizer Association has stated that there is ample manufacturing capacity to meet most of these requirements. The Department of Agriculture anticipates that the requirements for nitrogen and phosphoric acid can be met if further labor and transportation difficulties can be avoided. It doubts, however, that total supplies of potash will be sufficient to meet requirements even if plants continue to operate at peak capacity. Though the re-opening of European potash mines may make possible limited imports of potash this year, it appears unlikely that a sufficient quantity can be imported to make up the deficiency in domestic production.

COMMODITY NOTES
Flax Crop Insurance
The Federal Crop Insurance Corporation will provide insurance on the flax crop planted for harvest in 1947 in those states or counties where sufficient data are available to enable the Corporation to establish flax yields and premium rates. Crops may be insured up to 75 per cent of the average yield of flax for the individual farm. Application may be made by any person to cover his interest in a flax crop as landlord, owner-operator, or tenant. Such applications will be handled in the office of the local County Agricultural Conservation Association.

TECHNOLOGICAL DEVELOPMENTS
Treatment of Silage with Urea Improves Quality
The use of urea in the preparation of silage from sweet sorghums promises cattlemen a more economical ration for winter feeding of cattle. Results of experiments conducted at the Mississippi State Experiment Station since 1942 indicate that urea, when mixed with sorghum silage at the rate of ten pounds to the ton, materially increased the efficiency of the silage as a winter food for cows and heifers. In the experiments, mature cows and heifers were fed three types of rations during the winter season of three to four months. Cows receiving a standard type ration, consisting of untreated silage, cottonseed meal, and Johnson grass hay, gained an average of nine pounds; those that were fed the second ration, consisting of untreated silage and Johnson grass hay, suffered an average loss of 99 pounds, while those receiving the third ration, consisting of urea-treated silage and Johnson grass hay, gained an average of 13 pounds. For wintering yearling heifers the ration of hay and urea-treated silage was not as satisfactory as the standard ration containing the protein supplement, but was superior to the ration of untreated silage and hay. However, the urea-treated silage proved to be more palatable than untreated silage, and the heifers receiving that ration consumed approximately five pounds more per head per day than the ones that were fed the untreated silage.

NEW PUBLICATIONS
Farm Equipment Financing by Banks is the title of a manual recently published by the American Bankers Association as an aid to country banks which plan to expand their lending services to farmers. Methods successfully employed by many banks in every section of the country that have had satisfactory experience with farm equipment financing are outlined in this study. The discussion covers both the making of direct loans to farmers for buying equipment and the purchasing of farmers’ obligations from dealers who have made sales. Copies of the manual are available from the Small Business Credit Commission, American Bankers Association, 12 East 36th Street, New York 16, New York.

Winter Wheat Varieties for Oklahoma by A. M. Schlehuber and others is a recent bulletin of the Oklahoma Agricultural Experiment Station, Oklahoma A. & M. College, Stillwater, Oklahoma. This bulletin summarizes the wheat varietal testing work conducted at Stillwater, Lawton, and Woodward, during the period 1931-1945. It presents information on yields, milling, and baking tests, on the quality of specific varieties of wheat, and on the value of winter wheat for fall, winter, and spring pasturage. Copies of this publication may be obtained by request to the publisher.