

6-1-1959

## A Look at the Conservation Reserve

Arnold Paulsen  
*Iowa State College*

Earl O. Heady  
*Iowa State College*

Walter Butcher  
*Iowa State College*

Follow this and additional works at: <http://lib.dr.iastate.edu/farmscience>



Part of the [Agriculture Commons](#)

---

### Recommended Citation

Paulsen, Arnold; Heady, Earl O.; and Butcher, Walter (1959) "A Look at the Conservation Reserve," *Iowa Farm Science*: Vol. 13 : No. 12 , Article 3.

Available at: <http://lib.dr.iastate.edu/farmscience/vol13/iss12/3>

This Article is brought to you for free and open access by the Iowa Agricultural and Home Economics Experiment Station Publications at Iowa State University Digital Repository. It has been accepted for inclusion in Iowa Farm Science by an authorized editor of Iowa State University Digital Repository. For more information, please contact [digirep@iastate.edu](mailto:digirep@iastate.edu).



## A Look at the Conservation Reserve

Last fall, farmers voted in a new price-support program for corn with flexible price supports and unrestricted acreage. The companion program, the conservation reserve, assumes new importance and may help control acreage.

by Arnold Paulsen, Earl O. Heady and Walter Butcher

**T**WO OUT of three farmers voting in the corn referendum last November voted for the new corn-support program. As a result, the old program—based on a higher price support available only to growers who voluntarily stayed within their corn acreage allotments—was dropped. The new program places no restrictions on the acreages of corn and other feed grains: all feed grains of storable quality will be eligible for sealing and government loan.

Support prices under the new arrangement will be 90 percent of the average market price of the preceding 3 years or 65 percent of parity—whichever is higher. The national average support price in 1959 is \$1.12 per bushel, 90 percent of the 3-year average and 67 percent of parity. In succeeding years, the support price may be at

65 percent of parity since this is likely to be higher than 90 percent of the 3-year average.

Connected with this program is another important decision for farm operators—whether or not or to what extent to participate in the “conservation reserve.” In many cases, this decision may not be so simple as it might appear, and some of the results of our research at Iowa State College may be helpful in reaching a decision.

### Conservation Reserve . . .

The conservation reserve—which is principally a grain-land rental program—takes over as the main feature to control the acreage planted to feed grains under the new program. The acreage reserve part of the soil bank ended in 1958, along with acreage allotments.

Eligibility to receive the support price isn't affected by whether or not a grower participates in the conservation reserve. Feed grain prices, however, have declined in the past several years, and there will be no high support in 1959. This means that profits from growing feed grains, even at supported prices, are going down.

Because of this, many growers

will be taking another look at the conservation reserve—especially in view of the 25-percent rate increase enacted for contracts made in 1959 and future years.

You may be thinking about such questions as these: Is the conservation reserve a good alternative? What kind of land and how much of it might best go into the conservation reserve? Should the entire farm be put into the reserve to get the 10-percent bonus offered?

In cooperation with the Farm Economics Research Division, ARS, USDA, Iowa State College has been conducting a study of the effects of various production-control programs. A part of this study included an analysis of a program similar to the one now operating.

In this analysis, we examined income possibilities for typical farms to find out whether profits would be greater or less from participating in this type of program. The price relationships were approximately equal to those of 1956—\$1.20 for corn, \$14.50 for hogs, \$21.50 for choice beef cattle and about normal margins. Average 1959 conservation reserve rental payments in typical counties were used. The results may provide some clues that will help in answering your own questions.

ARNOLD PAULSEN is assistant professor of agricultural economics. EARL O. HEADY is executive director of the Center for Agricultural Adjustment. WALTER BUTCHER is agricultural economist, Farm Economics Research Division, ARS, USDA, stationed at Iowa State College.

A contribution from  
The Center for  
Agricultural Adjustment

## Would the conservation reserve be a good income alternative for you?

There's no standard answer to this question. The profit outcome depends on your own farm situation. In general, however, farmers with some relatively low-yielding land can increase their incomes by participating in the reserve.

But if your land is all very productive and you have enough livestock to process all of the feed you raise, your income probably would be reduced by renting land into the conservation reserve at the feed and livestock prices used in our study.

The study indicated, for example, that the operator of a typical 160-acre hog-beef fattening farm in the Marshall soils area of southwest Iowa would increase income by about \$116 by renting out 19 acres of the poorest land at \$19 an acre (about the average rate for Iowa in 1959). The farm would be withdrawing Shelby and related soils which have an average yield of only about 35 bushels of corn per acre.

In contrast, the study indicated that a typical 160-acre livestock farmer on Clarion-Webster soil in north-central Iowa—where the land is more uniform and of good quality—would reduce his income by about \$320 if he rented out the same amount of land at the same rate.

### What kind of land and how much of it should you put into the conservation reserve?

The kind and amount of land it will pay you to rent depends on (1) the yields of the crops that could be grown if the land weren't rented out, (2) the conservation reserve payment rate for the particular fields to be rented, (3) the amount and efficiency of the livestock that must be eliminated if the land is rented out, and (4) the prices expected for livestock and grain.

It usually pays to put the least productive land into the reserve. Here's why: Production costs per acre for a crop are about the same, regardless of yield. If the land, therefore, produces fewer-than-average bushels per acre, the costs per bushel will be higher than average. A bushel of grain of the same

quality has the same market value, regardless of the yield. Thus, on the low-producing land where costs per bushel are higher, net returns per bushel will be lower than on more productive land.

Since the conservation reserve payments are varied from field to field, according to relative yields per acre, one might expect the "payments per bushel" to be about the same regardless of yield. But these payments vary less from the state average payment than the yields vary from state average yields. Thus, the conservation reserve payments for individual fields tend to "lean" toward the state average payment rate. So, throughout Iowa, the conservation payments stack up best in comparison with the net returns from crops on land where the yield potential is lowest.

Farmers with some good and some poor land may find it worthwhile to change to less intensive rotations on some of their better land in order to rent out additional acres of their less productive land. This is because of the requirement that only the total acreage of soil-depleting crops must be reduced 1 acre for each acre placed in the conservation reserve. Acres of grain on the poor land going into the reserve will naturally be reduced. But it's also possible to replace soil-depleting crops on the good land with meadow to make it possible to rent low-producing rotation meadow to the reserve.

For each acre thus shifted, one more acre of the poor land which

was formerly in rotation meadow may be rented into the reserve. In effect, this shift would remove the income from an acre of oats, soybeans or corn and replace it with the conservation reserve rental payment. It would result in some increase in forage production and, after several years, could increase the grain yields because of the additional forage in the rotation. If hay is quite valuable on the farm or if the yield response to additional forage in the rotation is large, a shift of this kind would be especially profitable.

Table 1 shows some profit-maximizing plans for a 160-acre owner-operated farm on two Iowa soils.

For the farm on the Marshall soils, our study showed that, at the average payment rate for that area of \$19, it would be profitable to place about 20 acres in the conservation reserve. But more than \$50 per acre would be needed to make it profitable to reduce grain production to zero, to shift all cropland to the reserve or permanent pasture and to conduct livestock production only on purchased grain. This would be for operators who had no alternative for using their capital and labor except on the farm under the price assumptions used in this study.

It wouldn't be profitable for the farm on Clarion-Webster soil in north-central Iowa to rent any land at \$20 an acre. More than \$40 per acre would be needed to make it profitable to rent even 6 acres of the farm into the reserve. (But re-

TABLE 1. Profit-maximizing farm plans for typical 160-acre, owner-operated farms with the opportunity to participate in the new corn program.

	Type of farm, location, soil type and conservation reserve rental rate				
	Livestock, northern Iowa, Clarion-Webster, \$20		Hog-beef feeding, southwestern Iowa, Marshall, \$19		
	Present plan	Profitable change	Present plan	Profitable change	New plan
Land rented, acres.....	0	0	0	+ 19	19
Corn produced, bushels.....	3,838	0	2,226	-356	1,870
Hogs produced.....	207	0	127	- 67	60
Cattle fed.....	22	0	24	+ 10	34
Corn, acres.....	56	0	62	- 14	48
Oats, acres.....	27	0	45	- 11	34
Soybeans, acres.....	27	0	0	.....	.....
Meadow, acres.....	27	0	33	+ 1	34
Permanent pasture, acres.....	10	0	15	+ 5	20
Labor needed, hours.....	2,105	0	1,934	+ 25	1,959
Income <sup>1</sup> , dollars.....	7,480	0	4,145	+116	4,261

<sup>1</sup> Fixed costs of taxes, interest, insurance and depreciation have not been subtracted.

member that this is for a full-time owner-operator with a successful livestock program.)

Should prices for farm products continue to decline over the next several years, as they're expected to do, the current conservation reserve payments will become more attractive. It would then pay to put larger acreages into the reserve.

If part of the grain land is rented into the conservation reserve, a slightly different livestock combination may be needed to use the new feed combination more profitably. That is, grain-consuming livestock probably should be reduced as grain production decreases relative to forage. Usually this would mean a shift to more cattle and fewer hogs.

Grain production, for example, could profitably be reduced by 397 bushels, or 20 percent, per year on the Marshall farm (table 1). The number of hogs would be reduced about half, and more cattle would be fed on pasture. Notice, however, that the labor requirements would remain about constant.

### Should the entire farm be put into the conservation reserve to get the 10-percent bonus?

The answer to this question depends mainly on your goals, plans and preferences. If you're planning to retire or think you have better opportunities off the farm, the conservation reserve could help you achieve either.

The new program provides a premium when the whole farm is rented into the conservation reserve. If it's profitable to place a major portion of the farm into the reserve, "going all of the way" may be the most profitable. An operator who plans to retire may also find this a profitable thing to do, de-

pending on his social security situation.

Because of lower costs to the owner, the conservation reserve payment may be higher than the *net* return from a customary rental arrangement on some of the less productive land. With his grain land in the reserve, a retired operator and his family might wish to live on the farm and to use the buildings and pasture for a small livestock operation.

But what about the man who isn't retiring but is thinking about renting the whole farm while working elsewhere? Let's take a look at such a case:

Under the price levels used in the study (\$1.20 for corn, \$14.50 for hogs and \$21.50 for fat cattle), some farmers would receive more *money income* by renting their farms into the reserve, by selling their livestock and equipment, and by working elsewhere. The analysis indicated, however, that the amounts of gain in income would vary considerably among soil areas and individual farms within the same area (table 2).

Typical full-time farmers who can't find a suitable off-farm job or who prefer to continue farming full time would usually find their incomes reduced by putting all of their land into the conservation reserve. The reason is that much of the labor and capital formerly used in grain production cannot be employed very profitably, if at all, when no grain is produced.

Large-scale poultry production and commercial hog or cattle feeding programs using purchased grain would be good alternatives for a few of these farmers. But most full-time operators, unless they *choose* to work off the farm, will find that renting all of their grain land into the reserve will leave

them with more free time but less income.

Part-time farming—combining a job in town with a farm operation—represents an in-between possibility. It provides an additional source of income but doesn't involve a complete change of occupation. Many part-time farmers will find the conservation reserve a good alternative. They can rent out some of their poorer land which wouldn't return a lot for their scarce time. And, with the reduced acreage in grain crops, they can reorganize their farm operations to use much less labor and to use it more evenly throughout the year.

Operator and family labor available on a part-time farm is less well adapted to seasonal field crop operations than to year-around livestock operations. Table 3 shows the kinds of adjustments involved for a part-time operator in the Marshall soil area who has about 25 hours per week of his own and his family's labor available for use on the farm.

TABLE 3. Profit-maximizing farm plan in the Marshall soil area of western Iowa for part-time, 160-acre owner-operated farm with the opportunity to rent land to the conservation reserve at \$19 per acre as compared with typical 160-acre full-time farm.

	Part-time plan <sup>1</sup>	Full-time plan <sup>2</sup>
Land rented, acres.....	47	0
Corn produced, bushels.....	1,017	2,193
Hogs produced.....	0	127
Cows kept.....	0	0
Cattle fed.....	11	24
Corn, acres.....	30	62
Soybeans, acres.....	6	0
Meadow, acres.....	7	33
Permanent pasture, acres.....	47	15
Farm labor needed, hours <sup>3</sup> .....	745	1,934
Off-farm labor needed, hours.....	2,080	0
Farm income <sup>4</sup> .....	\$3,078	\$4,145
Off-farm income.....	\$2,600	\$ 0
TOTAL INCOME.....	\$5,678	\$4,145

<sup>1</sup> With conservation reserve.

<sup>2</sup> Without conservation reserve. The operator is "full-time" because he works only on the farm. More land and capital would be required to "fully employ" the operator.

<sup>3</sup> Farm labor limited to 25 man-hours per week of operator and family labor on part-time farm.

<sup>4</sup> Fixed cost of taxes, interest, insurance and depreciation have not been subtracted.

TABLE 2. Gain in income to owner-operators on typical 160-acre farms realized by putting all eligible land in conservation reserve at average area rate plus 10% bonus and taking a job off the farm at \$1.25 per hour.

Soil area	Income from farming <sup>1</sup>	Conservation reserve payment per acre	Conservation reserve payment + bonus	Off-farm wages	Net gain or loss
Shelby-Grundy-Haig.....	\$3,062	\$15	\$1,800	\$2,600	\$1,338
Ida-Monona.....	3,098	17	2,244	2,600	1,746
Marshall.....	3,634	19	2,926	2,600	1,892
Clarion-Webster.....	6,794	20	3,080	2,600	-1,114

<sup>1</sup> Less 5-percent charge for machinery investment at resale value.

## General Guides . . .

For possible help in your decision on whether or not to participate in the conservation reserve, we've developed some general guides based on the information

## Budget Form to Estimate the Amount of Land to Place in the Conservation Reserve

**Step 1.** Calculate the value of the crops you usually produce on your farm with average weather:

Corn,	..... acres, yielding	..... bushels per acre @ \$1.00 = \$.....
Oats,	..... acres, yielding	..... bushels per acre @ \$0.55 = \$.....
Soybeans,	..... acres, yielding	..... bushels per acre @ \$2.00 = \$.....
Meadow,	..... acres, yielding	..... tons per acre @ \$8.00 = \$.....
		TOTAL = \$.....

Subtract operating costs of \$10 per acre plus fertilizer costs for each acre of corn, oats and soybeans from the total:

COSTS = \$.....  
PRESENT CROP RETURN = \$.....

**Step 2.** Estimate the number of rotated acres on your farm which would not yield 40 bushels or more per acre if planted to corn. Consider, as a first estimate, placing half of these acres in the reserve. Calculate the return from these acres at your local conservation reserve rate:

..... acres @ \$..... per acre = \$..... (the total conservation reserve payment).

**Step 3.** Subtract the number of acres estimated in Step 2 from your base acreage for soil-depleting crops (2-year average acreage of corn, oats and soybeans) to get the maximum acreage of corn, oats and soybeans which you could raise: ..... acres.

**Step 4.** Estimate a new crop plan and calculate the value of the crops produced, including the conservation reserve payments. Remember that you'll have a new acreage combination of crops and, thus, may have different yields and fertilizer costs:

Corn,	..... acres, yielding	..... bushels per acre @ \$1.00 = \$.....
Oats,	..... acres, yielding	..... bushels per acre @ \$0.55 = \$.....
Soybeans,	..... acres, yielding	..... bushels per acre @ \$2.00 = \$.....
Meadow,	..... acres, yielding	..... tons per acre @ \$8.00 = \$.....
Reserve,	..... acres	@ \$..... = \$.....
		TOTAL = \$.....

Subtract COSTS = \$.....  
NEW CROP RETURN = \$.....

**Step 5 (optional).** If you would have a different livestock program because of the new feed supply, you may need to adjust the return obtained in Step 4 by the estimated amount of change in livestock income.

**The Meaning:** If the "new crop return" from Step 4 is greater than the "present crop return" of Step 1, it indicates an advantage in placing land in the conservation reserve; a larger acreage in the reserve might also be profitable. If the "new crop return" is smaller than the "present crop return," you may wish to rebudget, using a smaller acreage for the conservation reserve.

turned up in our study. These guides, in turn, can help you decide whether it's likely to be worthwhile to use the budget form at the end of the article to calculate the return for renting land on your farm into the conservation reserve.

● If you have some land on which the average corn yield is less than 40 bushels per acre, the chances are good that you'll find it to your advantage to place land in the reserve. If you also have more than 50 percent of your land in grain crops, you certainly should look into possible advantages of the conservation reserve.

● If you can obtain additional productive land, you may want to rent out some of your own less-productive acres to the reserve and expand your farm. In this way, you can use your labor and capital to operate only the better-quality land; the earnings of resources used on good-quality land will be greater than earnings for the same resources used on the less-productive land.

● If you usually have better-than-average success with livestock but are short on labor, you may find that you can increase your returns by placing some of your poorest land in the reserve. This would permit you to concentrate more of your efforts on improving and expanding your livestock enterprise. Crops, on the average, return more per hour for labor than livestock. But when it's possible to collect \$13 or more per acre for low-yielding land and to concentrate on a larger, more efficient livestock operation, the combination is likely to increase total income.

● If you have a small farm and also the opportunity to work regularly off the farm at \$1.25 or more per hour, you'll probably find it to your advantage, from the standpoint of income, to rent all of the grain land or all but the most productive land to the conservation reserve. Renting land into the reserve will often reduce the work load enough at peak seasons so that you can operate the remainder of the farm on a part-time basis and obtain a regular full-time job off the farm.