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# Erosion Control

## *An Issue in American Farm Policy*

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Agriculture, the nation's largest and one of its most volatile industries, faces many and frequent problems. Typically, such problems are the result of adverse weather or economic conditions.

In recent years a new problem has perplexed the agricultural community — environmental concern. One law which has resulted from this concern is Section 208 of Public Law 92-500, the Federal Water Pollution Control Act Amendments of 1972. This law has initiated a program of controls and assistance aimed at abating the non-point discharge of effluents from sources including the nation's croplands. For the grain producers of the prairies of northern Idaho and eastern Washington, the most significant implication of this legislation is the need for substantial reduction in runoff caused erosion.

Farmer response to this legislation has demonstrated their shared concern about soil erosion. USDA Soil Conservation Service assistance has received a broader base of acceptance, Soil and Water Conservation Districts have realized a larger member participation and, through their commodity associations, farmers have supported and provided financial assistance to programs of erosion research in the Pacific Northwest. Ultimately, many farm managers have altered cropping practices and reduced tillage to abate the erosion problem.

Probably the most significant crop-tillage adjustment made by farmers has been the reduction in summer fallow acreage. Fig. 1 shows the 1969 and 1974 acreages of summer fallow for six northern Idaho counties.

Although the extensive reduction in fallowed land between the last two census years spans enactment of the water quality legislation of 1972, to attribute this change totally to erosion concern would be unwarranted.

World market conditions and Federal agricultural policy (or lack thereof) can be credited with creating a favorable economic situation for the reduction of summer fallow. Since the 1972-1973 crop year, price and supply control programs for wheat have been essentially dormant. In that

crop year expanded export demand caused dramatic price increases in a period of limited production and low wheat surpluses. Market prices exceeded support levels by substantial margins. In response to favorable markets, the Secretary of Agriculture requested full production on the part of all farmers. Effectively, the agricultural economy was left to respond to market signals free of government control or assistance.

During this period of free market incentive, many farmers shifted from the use of summer fallow to continuous cropping of wheat, feed grains and legumes in areas with sufficient precipitation. In prairie areas with less moisture, farmers reduced their use of fallow practices to the minimum levels necessary for moisture conservation.

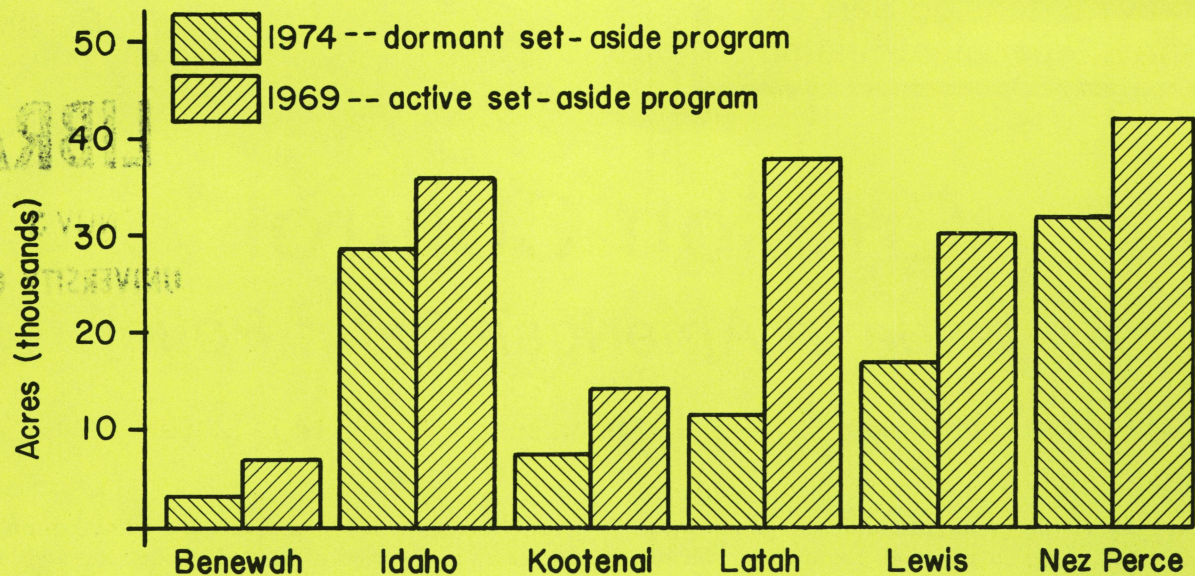
Although prices have remained above or near target levels since that time, the costs of agricultural inputs have risen sharply. The resulting squeeze on farm incomes has created a depressed profit situation for area farmers.

The period of free markets created by unusual situations between 1973 and 1977 has demonstrated an important aspect of the area's agricultural production trends. *Use of the summer fallow practice has been consistently minimal over conditions ranging from relatively high to very low farm profitability.* In turn, erosion control has benefited greatly.

What is the significance of summer fallow with relation to soil erosion? R. W. Harder, soil scientist at the University of Idaho, estimates average soil loss in Latah County is 25 tons per acre on land seeded to winter wheat after fallow. This compares to 7 tons per acre on winter wheat ground previously cropped with peas. This is an erosion increase of 350 percent. Based on these estimates, an increase in fallow acreage from 1974 (assumed approximately equal to present acreage) to 1969 levels would mean half a million more tons of soil lost per year in Latah County alone, or a soil loss increase of 1.9 tons for each of the 254,000 acres of cropland in the county. This is a soil erosion rate increase of 20 percent in an area which already has one of the most serious cropland erosion problems in the nation.



**Fig.1. Summer fallow acreages in six counties of northern Idaho.**



Source: Census of Agriculture, 1974 and 1969.

Another factor demonstrated by recent years of dormant Federal agricultural control policy is continued excess production capacity of American agriculture. Throughout this century uncurbed agricultural production has been followed by devastatingly low commodity prices relative to production input costs.

Farm price support programs have been controversial throughout their history. Since the welfare of the nation's economy is inseparably linked with that of agriculture, however, few have challenged that maintaining a stable farm price is essential. A more heated area of controversy has been the need for commodity supply (production) control programs. Opponents fear the loss of individual farmer freedom in making his management choices. Proponents argue that price supports without reduced production result in continued low prices and perpetual U.S. Treasury Department costs to shore up those prices.

Crop shortfalls in 1972 and resultant rising prices encouraged all-out production both nationally and worldwide. Markets have become glutted the past two years and prices have fallen sharply to levels considered intolerable. The farm legislation of 1977 seeks to remedy this situation. The Food and Agriculture Act signed by the President September 29, 1977, sets the target price for 1978 crop wheat at \$3.05 per bushel (\$3 if total U.S. production exceeds 1.8 billion bushels). Eligibility for this price protection requires that farmers set aside 2 acres for every 10 acres of wheat produced.

For the prairie areas of northern Idaho and eastern Washington, the set-aside required under previous legislation has been near synonymous with summer fallow. Federal programs have required that set-aside acres either not be cropped or, if cropped, the crop was not to be

harvested. Obviously, seeding a crop and not harvesting it is a more costly process than fallow. In addition, the fallow process conserves moisture and offers more effective weed control. Ultimately then, fallow is less expensive and will also add to the next year's crop because of the stored moisture and reduced weed populations.

Even in cases where these cost savings and yield increases are not great, they still have particular significance. In any period where price supports are necessary and acreage set-aside is used, assuredly farm profits will be low. Thus, even the slightest savings or added yield becomes extremely important. Through this set of circumstances, summer fallow becomes the only viable management of set-aside acres for most area farmers.

In this light, the area's dryland wheat farmers have expected to be caught between the goals of two separate legislative enactments. Water-quality legislation, P.L. 92-500, mandates continued progress toward a 1986 goal of zero sediment discharge into the nation's streams. At the same time, previous acreage reduction requirements have, through economic inducement, virtually forced farmers to apply the summer fallow practice to portions of their land. Since summer fallow is the number one erosion problem in the area, the conflict between that practice and the water quality goal is obvious.

Here again, the relevant questions lie not with a program of price supports but with supply controls. Few challenge the need for relief to the depressed agricultural economy. But to avoid a high bill to the taxpayer for extended periods of price supports, there is also need for a program of supply control. What then are the alternatives for a supply (production) controls program that do not artificially enhance the favorability of increased summer fallow acreage?



In dealing with the formulation of policy, the initial choices are unlimited. In the first place, public acceptability of alternatives limits such choice; ultimately, the comparative effectiveness within acceptable alternatives delineates the final choice.

Several alternatives offer potential resolution to the conflict. This bulletin recommends consideration of three alternatives. The alternatives provide a basis for comparative assessment of present and anticipated farm policy as they relate to the problem of erosion control. Consideration by agricultural producers as well as by researchers and policymakers will result in sound, workable policy.

**Alternative One.** In areas such as the Palouse and Camas prairies of northern Idaho where severe erosion results from the use of summer fallow, an exception should be made to set-aside requirements. With no set-aside requirements, farmers could continue to use continuous-crop rotations and avoid increased erosion. Unfortunately, this would not aid in restricting wheat supplies. Although only areas with an extreme erosion hazard would need to be made eligible for such exemptions, other areas within the nation likely would seek similar exemptions for varying reasons.

**Alternative Two.** A subsidy payment could be made to farmers for the seeding of set-aside acres to soil-building crops such as alfalfa hay. If this were accompanied by a no-harvest stipulation, fallowed set-aside could be eliminated and supply controls would continue to be effective. Although soils would be improved by such crops, their moisture use would be a detriment in low precipitation areas. The deterrent to this approach lies with Government costs. A direct payment near or equal to the costs incurred in growing this crop would have to be offered on all set-aside acres to provide the necessary economic incentive to enable farmers to adopt the practice.

**Alternative Three.** Effective supply control for wheat can also be achieved without set-aside payments. By allowing harvestable alternative crops to be seeded on set-aside acres, the goal of reducing wheat production would still be accomplished. In turn, the income generated from sale of that commodity would provide the necessary incentive for farmers to adopt such practices. Oil crops such as safflower, rape, crambe, flax, sunflower and mustard appear to offer good potential as alternate crops in dryland areas of

northern Idaho. All are effective erosion retardants and, on an experimental basis, have demonstrated adaptability to climatic conditions of the area. Rape and mustard are presently grown on a limited commercial basis within the area.

Although virtually any crop that is adaptable to conditions within the areas could be considered an alternate crop, carefully planned restrictions would have to be applied under such a program. As an example, if soybeans were seeded as an alternate crop, the added supply would tend to depress prices in that market. Alternate crops best considered would be those where U.S. production is presently limited or nonexistent.

Though water quality is the essence of P.L. 92-500, its integral role in agricultural policy has not been recognized. There are many alternatives and combinations of alternatives to presently proposed agricultural policy. To be consistent with water quality legislation, authors of such alternatives must take note of area-specific erosion problems.

*The farm operator in the past has been caught between the requirements of commodity-supply-control programs and the desires for reduced soil erosion and improved water quality. What then is the role that he can fulfill in bringing about resolution of this conflict?*

Farmer concern must be effectively registered with administrators, policymakers and Federal legislators. Letters and telegrams from constituents to their senators and representatives is a practical first-step. Organized efforts should then follow. For this purpose, local Soil and Water Conservation Districts provide an excellent forum. Through active participation in district meetings, the local impact of conflicting legislation can be assessed and alternative plans developed. Conservation districts can then, as a unit, interject their concerns into the process of policy formulation and implementation through direct contact with USDA officials and national legislators. On a broader scale, the assistance of state and regional commodity associations should also be solicited. To unify the efforts of Soil and Water Conservation Districts, the facilities of organizations such as the Clearwater Resource Conservation and Development District are available.

The farm operator has a definite role in the development and implementation of farm policy. For such policy to be effective, farmers must themselves take an active interest in policy formulation both as individuals and through the organizations representing them.

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This article was written before the Food and Agriculture Act of 1977 had passed either house of Congress. That bill has now passed and has been signed by the President. Secretary Bob Bergland has announced a program that, for commodity loan, deficiency payment and disaster relief eligibility, will require farmers to set aside 2 acres for every 10 of wheat production. Summer fallow will not qualify as

an acceptable management practice on set-aside acres. Such acres must be seeded to an "approved vegetative cover" that will provide protection from wind and water erosion.

Just as farmer concern has been instrumental in avoiding a return to fallow set-aside, farmers have opportunity to influence matters not yet resolved in the administration of



the new agricultural bill. These unresolved issues include the choice of what will constitute an "acceptable cover crop" and the decision on whether farmers will be allowed to harvest crops grown on set-aside acres. Set-aside requirements associated with feed grain production are also unresolved to date.

The farm program has latitude for flexibility as it is administered in different regions of the country. To assure that regional administration of the program is of the utmost

benefit, individual farmers must take an active role in identifying their own particular problems, potentials and needs. This can be done by advising local and state ASCS offices and committees in order to improve their awareness of the problems peculiar to the farm, county, state or region. Further influence can be exerted through commodity and general farm organizations, including Soil and Water Conservation Districts. It is of paramount importance for the individual farmer to **keep informed!!!**

## The Authors

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10 cents per copy

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