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Woodlands and Soil Conservation

By H. H. BENNETT

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The farmer's land is his capital. He can no more afford to exhaust his soil in producing farm and forest commodities than the industrialist can afford to exhaust his plant and machinery in manufacturing goods. Such a short-sighted business policy sooner or later would result in bankruptcy.

As foolish as it may seem now, American agriculture followed that policy for many years—too many years. We used up our soil to produce crops, until we had ruined 50 million acres of cultivated land so that they may never be plowed again. We suffered another 50 million acres of cropland to become almost as badly damaged and 100 million acres more to be stripped of all or most of their topsoil. American agriculture was headed for bankruptcy—bankruptcy in productive land.

We learned our lesson, even though we learned it at terrific expense. We learned that there is more to knowing how to farm than just growing good crops—more to ranching than just raising more cattle—more to forestry than just cutting trees.

We found that if we are to continue growing good crops—year after year, through our lives and our children's and their children's lives—we must take care of the land. We must give back to the soil the food materials that growing crops take out of it. But, even more important, we must hold it in place—on the fields, on the range, and over the woodlands. We must hold it against the erosion that follows land...
abuse that takes away the whole body of the soil—not only plant nutrients but the materials that build plant nutrients. We must take care of the rain that falls, turning it into the ground where the roots of plants can use it. We must not allow too many cattle to remove the grass from the range; fewer cattle will produce more beef or more milk, as the case may be, and give the grass a chance to flourish and hold the soil. And we must manage our forests so that year after year they will yield their riches without diminishment.

People sometimes ask just why the Soil Conservation Service is interested in forestry—why it has a certain responsibility for woodlands on the American farm. That can be explained very briefly.

No two pieces of land are exactly alike. Lands vary in slope, size, shape, climatic environment, stoniness, drainage, erodibility, and in other ways. This land may grow good cotton, but it will not grow good tobacco. That land may grow excellent grass, but it will not produce good potatoes. Some land is suitable for row crops, but other land will wash badly unless it is covered with grass or other dense vegetation. Some land has to be terraced and treated in various ways before it is safe for growing crops. Other land cannot be cultivated at all without permanent injury to the soil. Some land is suitable only for trees.

The soil conservationist tries to find the best use for each parcel of land. The more erodible the land, the greater care it requires. The conservation management of cultivated land may vary all the way from simple contour plowing and rotations to a complex system of terraces, diversions, strip-crops, outlet channels, and other devices in combination with rotations and contour cultivation. The degree of complexity and intensity of protection required is dictated by two factors: The need for cultivated land on the farm, and the nature of the land itself—as regards erodibility, slope, degree of soil damage, and so on.

Two of the most effective erosion control practices are permanent grass and forest cover. Those are Nature's practices. Either one reduces soil and water losses to the minimum. Many parts of the average farm are better suited for one or

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the other of these types of cover than for any other use. Often
trees will prove more profitable than any other crops, be-
cause they will make an effective stand where no other crop
can be grown without considerable expense or damage to the
soil.

So, trees have a very important part in farm conservation
plans. And where the soil conservationist finds that trees
fit into the land use requirements of a farm, he treats them
as a crop—as a perennial money-making or money-saving
proposition. He shows the farmer how to manage those wood-
land acres to produce steady, dependable supplies of fuel,
fence posts, saw timber, and other wood products. Woodland
is never idle land on the conservation-managed farm. It
takes its place as a profitable part of the farm enterprise—
protecting and conserving the soil, encouraging wildlife, hold-
ing rainfall and causing more of it to filter into the reservoir
of the soil.

A group of farmers in the State of Washington has been
assisted by foresters of the Soil Conservation Service working
with a CCC camp and operating through a local cooperative
called the Washington Forest Products Association. One of
the chief problems on many of these farms was the matter of
timber management, half or most of the farm acreage often
being second-growth timber, mainly Douglas fir and mixtures
of cedar, pine, and alder.

Between 35 and 40 cooperating farmers participated in
the first season’s cutting, in 1940. More than $15,000 worth
of forest products were marketed by the local members of
the Association—not so much, but $15,000 more than they
were getting before.

What has been accomplished on one tract of woodlands
in this area makes a powerful story of the practical possi-
bilities of efficient utilization of natural resources. Here was
a tract of 360 acres, most of it covered with second-growth.
The owner was getting very little from it, aside from fire-
wood and a little pulpwood. He had to get outside employ-
ment for a living, and even then he had difficulty in meeting
payments due on the purchase price of the land.

A conservative plan for management of the woodland

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problems on a portion of the tract and for the development of 12 acres for pasture was prepared. The owner entered into an agreement with the Soil Conservation Service in October 1940 for execution of the plan. By June 1, 1941, this farmer had realized financial returns of $1,940 (or $24.25 an acre) on the 80 acres of woodland. The net return on a stumpage income of $8.00 an acre would have amounted to $640. Actually the farmer did the bulk of the work himself and so retained practically the whole $1,940.

The splendid result of this first year of conservation operation is that all this man's debts were wiped off, his taxes were paid, and he purchased 160 additional acres of second-growth land. Thus, in less than 12 months, what looked like a hopeless situation was turned into a profitable enterprise, promising security for the future.

In western Wisconsin, few farmers have ever sold their oak for anything but cross ties. Last year, through the cooperation brought about through the local soil conservation district, LaCrosse County farmers were able to sell better grade logs for lumber and veneer. Instead of $6 to $10 per thousand feet for cross ties, these farmers are getting $15 to $45 for their better red and white oak logs. With this new source of income opened up, farmers in that area are showing more interest in good woodland management than ever before. Soil conservationists are thus able to show how desirable changes in land use may be achieved in a profitable way.

But not all the erodible land on most farms can be put in trees; if that were the case, the soil conservationist's task would be a simple one. In reality, his task is difficult and complex. When a farmer asks for assistance in conserving the soil on his farm he wants the conservationist to help him work out a plan that will accomplish several things. The most important probably are these:

First, the plan must permit him to enjoy an income as great as, if not greater than, he enjoyed before. At least he expects that under conservation management his farm will return him a greater income over a period of years than it would return otherwise.

Second, the plan must insure the protection of his soil

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from washing and blowing and also enable him to build up and improve the productivity of his land as time goes on.

Third, the plan must provide for the utilization of as much of the available water as his crops, his livestock, and his home needs require.

In different parts of the country, there are different problems and farmers expect different results from conservation planning. Some areas have too much rain, others have too little. One region may be cattle country, another may be a country of orchards, or tobacco, or cotton, or potatoes. Some land is worth $3 an acre—other land is worth $300. In some places a man can make a living on 10 acres—in other places 1000 acres will not support a family.

All these problems—these differences in regions, in farms, in lands—require that conservation practices fit the needs and adaptabilities of the particular field or orchard, meadow, range area, or woodlot under consideration. There are no cure-alls, no nostrums with which to treat the ills of the land. Each individual case must be examined in detail—taking into account the farmer’s own preferences and means. Then, with the knowledge gained from research and from experience, the conservationist works out with the farmer a plan of treatment—in which woodlands often play an important part. The conservationist plans for whole farms—the complete farm enterprise; and in fitting adaptable practices to the various parts of the farm, he tries to treat one field, or grassed area, or woodland tract in such a way that what is done will benefit an adjacent field or woodlot, or so that the treatment of the whole farm will benefit a lower-lying or downstream farm.

On many farms it is necessary to use a combination of various measures for control of erosion and conservation of rainfall, such as installations of soil-conserving and water-control structures and practices, as well as changes in land use, in order to complete the job. And, in this connection, it is important to observe that it may not be practicable to complete the application of all measures at once. In such cases farm conservation plans should be developed with that end in view, and all needed measures, practices, and struc-
tures should be established coordinately and as quickly as practicable.

Of course, other measures of good husbandry that can be applied without technical assistance are required on most farms, such, for example, as regulation of grazing in over-grazed pastures, destruction of noxious weeds, use of farm manure on thin soil, and—a recent important development—stubble-mulch cultivation. The other more complex measures call for technical planning and technical assistance, and that is where the trained soil conservationist comes in.

With the comprehensive type of complete land treatment now being employed in more than 650 soil conservation districts embracing more than 400 million acres of American farmland, there is every reason to believe that the rate of accelerated erosion eventually can be reduced to the point where it is no faster than the rate of normal erosion. This, of course, is the goal that must be attained if our farm land is to endure, and the present world crisis need not cause us to relax in our efforts to attain it.

Now, while the Nation is at war, we urgently need agricultural production. But there is no need for widespread waste of soil, range, forage, and forest in order to meet the demands of war conditions. We cannot afford to have waste. We need every productive facility, every tool, every acre of land we have.

Here is probably the biggest responsibility that conservationists have ever faced. We were not ready when the last war caught us. We had not learned enough of the art and the science of use without waste—of expanded production without abuse of the land. Perhaps we are not entirely ready now. But there is an army of us, fully equipped with the knowledge and the tools we need.

If we mobilize our forces and deploy them in the right places at the right times, this Nation can meet all the demands that war may make upon it without the sacrifice of one farm, one ranch, or one forest.