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About These Iowa Forests

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Left: A farm woodlot that was pastured, even though it provided little feed. It has no young trees to take the place eventually of those now present.

Below: An unpastured farm woodlot. Note the young trees in contrast to the pastured woodlot above.

By CHARLES M. GENAUX and JOHN G. KUENZEL

I F YOU THINK of forests as vast areas of mountain lands covered with towering evergreen trees, you may find it hard to believe that more than one-fourth of the commercial forest land in the United States today is represented by farmers' woodlots. An individual farmer in, let us say, Davis or Boone County, Iowa, can be forgiven for thinking that his 5, 10, or 20-acre woodland is practically worthless to him, and consequently cannot be of much importance to the country as a whole. But when that small area is multiplied by several million farms between the Atlantic and Pacific Coasts, the total farm woods area comes to about 127 million acres. This is a lot of land.

Iowa farmers have, in the aggregate, between 1½ and 2 million of these 127 million acres. The whole state is concerned in the management of its forest areas, because these lands ought to pay their own way. If they do not produce enough to pay taxes, plus a reasonable income on the investment, then the rest of the land in the state must support the woods areas.

Consequently, the Iowa Agricultural Experiment Station has started a series of studies in which it hopes to find out, first of all, if the farm woodlands are in good producing condition; if they are well-stocked with high-quality trees, and if they are being managed in such a way that they will remain productive indefinitely. A second objective is to find out how much wood and how much revenue an acre of Iowa farm woods ought to produce. Finally, if they are not producing as much as they should, we want to find out what needs to be done to increase production.

Federal Support

The federal government has long shown an interest in farm forestry. A recent evidence of this was the congressional appropriation under terms of the Norris-Doxey Cooperative Farm Forestry Act for the encouragement of good farm forestry practices in all the states.

A state-wide plan for putting this act into operation has just been completed by Prof. G. B. MacDonald, State Forester, and members of his staff. The execution of this plan will depend upon close cooperation...
cooperation among workers in a number of agencies, including the U. S. Soil Conservation Service, U. S. Forest Service, Iowa State Conservation Commission, Iowa Agricultural Extension Service and the Iowa Agricultural Experiment Station.

In 1924 the Clarke-McNary law made provisions for federal cooperation with the states in several important phases of farm forestry. One section of this law authorized the cooperative production and distribution of planting stock for farm woodlot, windbreak and shelterbelt planting. Trees are growing at Ames in a forest nursery owned by the Iowa State Conservation Commission. The federal government, through the United States Forest Service, contributes up to $2,000 a year which is expended, along with a somewhat larger state appropriation, for the production and distribution of trees from this nursery.

It would be difficult to estimate the dollars and cents value of the benefits that this state has derived from participation in cooperative tree distribution. Up to 1939, 4,755 acres of private, municipal and state land had been planted in Iowa. State and federal forestry agencies distributed a total of 1,863,000 trees in the spring of 1939. Farmers pay only about half the actual cost of production for the trees they receive under the Clarke-McNary program, because the government does not permit the state to recover from farmers more than the state’s share of the cost of growing the plants. In return for this consideration, farmers are required to use the trees for farm forestry purposes only, and not for decorative or landscape planting, nor for resale.

**Extension Forester**

Another section of the same law provided additional funds of up to $2,000 annually to match a similar state appropriation for the employment of an extension specialist in forestry. Iowa’s extension forester is Mr. Guy R. Ramsey. He has a wide variety of tasks, not the least of which is supervising the distribution of farm tree-planting stock. He not only receives the orders for trees, but works closely with the local county agricultural agents in helping farm owners to properly prepare their planting areas, to select the right kind of trees for their special purposes and to care for the plantations until they are well established.

**Don’t Pasture Woodlot**

The United States Forest Service, through the Central States Forest Experiment Station, has participated actively with the Iowa Agricultural Experiment Station in cooperative studies of the quality of the timber in some of our forest stands. Results and recommendations from these investigations are now in press. Studies made in stands of mixed oaks and hickories in southeastern Iowa showed that many woodlands in that section of the state were below par. In too many cases the woods were given over to pasture. The result of this kind of use was almost always a third-rate pasture and a very low-grade woodland.

This was not an altogether unexpected finding, because other states have had the same kind of a problem to deal with. In the Lake States, for example, in timber similar to ours, it was found that there was less money in pasturing woods than there was in either pasture or woods alone. It was finally recommended there that the farmers clear off from one-fourth to half of their woodlands and get a good bluegrass sod on this part of their so-called “woodland pasture.” This would give them a first-rate pasture. Then by fencing livestock out of the rest of the woodland, they would also have a creditable farm woodlot. Present studies indicate that we may take a lesson from their experience.

Anyone knows, of course, that good bluegrass pasture does not grow under timber that is even moderately dense. It seems often to be overlooked, however, that timber must be fairly dense in order to produce good clear logs. Even a dairy herd grazing in woods will injure the bark of some trees so that insects and decay get through to the wood and seriously damage, if not eventually kill the trees. They also nip the tender tops from young sprouts and seedlings. Steers often “ride down” young saplings and strip the foliage. The result is always the same—fewer trees in the stand.

When a timber stand is thin or open, the lower branches fail to die and break off as they should, so that big trees are usually limbly and of poor quality. It may be perfectly good pasture management to have shade trees in the pasture. It is not good woodland management to have cows in the woodlot. It is unfortunate that the term “woodland pastures” has been widely used. Such areas are either woodland or pasture; they cannot be both.
Forest fires hold no terror for the average Iowan. Yet we have found in our forestry studies that woods fires have done considerable damage in the state. We are apt to think of forest fires as devastating hundreds or thousands of acres and being of little consequence except in the great commercial forest areas.

The fact is that a great many young trees are killed annually by the harmless looking surface fires that are so common in the spring of the year all through the state. These same fires do a variety of other kinds of damage. They destroy food, cover and nesting places of wildlife. They consume leaves and twigs that would otherwise go into building up the soil. They make scars in the buttlogs, through which insects and decay get into the best parts of the trees. Besides this, it is questionable—at least there is no proof—if such fires do any good in controlling weeds and crop-destroying insects. It may be that by driving out insect-eating animals and birds fires ultimately increase these insect pests.

Logging injuries, lightning scars, frost-cracks, wind, snow and ice-breakage may be more or less important, depending upon the location and climate. Some of these can be controlled to a large extent by a farm-owner who has an area small enough that he can give detailed supervision to his woods. He can cut out the injured or defective trees first and keep the straight clear specimens for later harvest.

**Leave Good Parents**

Poor management results where owners cut young trees just when they are beginning to put on their best growth. It takes about 15 years before a young white oak, for example, is big enough to start putting on any considerable volume growth. If it is left for another 15 years, before being cut, it will make wood a lot faster during the second period. Young trees are not so valuable for fence posts and mine props as the older ones, either, because this kind of product needs to be made up partly of the decay-resisting heartwood. Heartwood is always small, if not entirely lacking, in the very young trees.

"High-grading", or in other words, consistently taking the best tree out of the woods when timber is needed around the farm is faulty woodland management. Obviously in forestry, just as in livestock breeding, the poorer the parents the poorer the offspring. If, for instance, all the good white oaks are taken out, leaving a mixture of elm, ironwood, inferior white oak, hickories and black oak, the next generation is likely to have a smaller proportion of white oak, and these from poor parent stock.

A more comprehensive statement of the experimental work so far completed is to be found in Research Bulletin 269, copies of which are available upon request to the Bulletin Office, Iowa Agricultural Experiment Station, Ames.

The determination of actual volumes of standing timber and of potential returns from Iowa farm woodlands is being studied now but requires a somewhat longer time for completion.