

VIRGINIA

FORESTRY

ANNUAL REPORT 1936

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REPORT FILES
OFFICE COOPERATIVE
EXTENSION WORK

ANNUAL REPORT

EXTENSION WORK IN FORESTRY

DECEMBER 1, 1935 to NOVEMBER 30, 1936

By

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Extension Forester

To

John R. Hatcheson, Director Extension Division

Virginia Polytechnic Institute

1.

(1) Organization.

The Forestry Department remains as reorganized July 1, 1933. One full time specialist, employed jointly by the Extension Division of V.P.I. and the United States Department of Agriculture (under the provisions of the Clark-McNary Act) devotes his entire time to the introduction, extension and demonstration of better forest practice on the 197,000 odd farms in the state.

(2) Current Changes.

Emergency activities continue to upset planned programs. These activities are of two kinds: Calls upon the specialists for assistance in assembling information or in putting across emergency programs, and demands upon the county agents' time, thus blocking the avenue through which farm people and organizations are normally contacted.

Among the emergency programs which touch forestry work directly are: Resettlement Administration projects which have to do with land use, with forest properties and soil conservation; C.C.C. programs; Agricultural Conservation programs dealing with reforestation and timber stand improvement; Soil Conservation Service activities and F.V.A. activities as they extend into nine counties in Southwest Virginia.

Resettlement Administration activities took the form of technical advice to rehabilitation clients, estimates and marketing plans for

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officials who were seeking a means of saving a farm to a client, examination of proposed resettlement areas, and technical assistance on Buckingham, Appomattox and adjoining counties projects.

C.C.C. work, for the most part, took the form of lectures and supplying teaching material for C.C.C. educational programs. Early in November word was received that Director Fechner had modified the E.C.W. program whereby it would be possible to use C.C.C. enrollees for the purpose of putting on Timber-Stand-Improvement Demonstrations on privately owned land, including farms. This opened a tremendous field and plans are well under way to take advantage of this liberalized policy throughout the current winter and spring. To date twelve county agents have signified their intention of devoting special time to this project.

Instructions and procedure under the Agricultural Conservation program, whereby a benefit payment would be made for reforesting crop land, came too late to be available in Virginia so far as forest planting was concerned. It seems questionable whether this provision will ever be very widely applicable in Virginia for the reason that most of the land which would be eligible is more apt to be planted to permanent pasture than to forest. Reforestation is more likely to take place on areas which have been out of cultivation too long to qualify for benefit payments, so are more apt to be handled under one of the other programs. Throughout the year efforts have been made to work out some scheme which would provide a benefit payment for some kind of permanent improvement to existing farm woodlands. This has proven a difficult problem because of the

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great variety of conditions which exist and the difficulty of pinning the improved practices down to definite activities. These efforts are being continued and if the program is continued it seems likely that something workable and helpful will be worked out.

The Soil Conservation Service declares its activities to be transient. This means that when they move on, the Extension Service will fall heir to their projects, good or bad. It is important, therefore, that the various specialists, including, and perhaps rather especially, the forestry specialist, keep in close contact with what is being done and see to it that the job they are apt to inherit is in line with what they regard as good practice.

T.V.A. activities have resulted in very little farm forestry work to date. Various projects have been proposed but little has been accomplished in the woods. Such erosion control, reforestation and stand improvement work as there has been, was accomplished by E.C.W. work under the supervision of T.V.A. foresters and technicians.

The V.P.I. Land Use Committee, of which the Extension Forester is a member, has had numerous meetings with the State Submarginal Land Project Leader and various representatives of the District Office of the Resettlement Administration. It has also examined several tracts being considered for purchase as submarginal land or as tracts suitable for resettlement projects and reported on their suitability.

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The State Soil Survey continues to include a forestry section in each county report. The forestry specialist cooperates in the preparation of these. In addition to this the director of the Survey has organized a seminar among his men and one of the subjects taken for study has been the relation of forest and other plant growth to soil type and condition. The forestry specialist has spent two days field work and considerable time in the office in connection with this study.

The Department of Wild Life management ^{which} was established at V.P.I., something over a year ago, functioned throughout the year covered by this report. And since some forms of wildlife are so essentially a part of the forest, and since some of the game species represent such an important part of the forest yield, the forestry specialist has cooperated in three ways. (1) Assistance in organizing county wildlife associations. (2) Including wildlife subjects in 4-H club work and (3) Modifying his recommendations to farmers in regard to forest improvement. Trees which were formerly marked for removal as diseased or dead, may frequently be left as den trees, and certain trees which were formerly marked for removal because of the low economic value for lumber, frequently take on a different aspect when viewed from the point of view of the huntsman or wildlife enthusiast. Many of the frequently designated "weed trees" supply large quantities of feed.

After being "off the air" for three or four years, the forestry specialist has again been asked to appear on the V.P.I. program regularly once in each alternate month. The programs are broadcast at noon each day from W.D.B.J.

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at Roanoke.

(3) Phases Stressed in 1936.

Five phases of forestry work have been stressed in 1936 among adults and two among juniors.

ADULT PROJECTS:

1. Rebuilding depleted farm woods through thinning culling and reforestation.
2. Correlating output and market practices with available markets.
3. Regulating the harvesting of woodland products; with sustained yield and regularity of income as the objective.
4. Making provision for succeeding crops where mature timber is being harvested.
5. Providing feed and cover for wildlife as a product of forest and field.

JUNIOR PROJECTS:

1. Planting 1000 seedling trees to be supplied by the State Forester.
2. Study of trees and other wildlife in line with the Conservation of Wildlife movement.

Within the past month an entirely new avenue of approach has been opened - the use of E.C.W. labor in the development of Timber-Stand-Improvement demonstrations on private lands. This is important from two angles: It gives us an opportunity to establish and carry through demonstrations of practices which, while much needed, do not appeal to the farmer as much as do some other projects for the reason that the expected benefits are not immediate. And it removes the psychological handicap which existed so long as the Soil Conservation Service was permitted to do this type of work whereas we were confined to the type which depended upon the farmer doing the work with his own labor. He resented the dis-

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crimination.

Owing to the large number of agencies involved, and to the fact that the announcement came at a time when the field force was finishing up and reporting on its years work, this project took some time to get into motion. Applications are now being taken by the county agents and it is expected that actual work in the woods will get started with the new year. Copies of the principal correspondence and a memorandum of understanding are attached.

ADULT PROJECTS:

Rebuilding depleted farm woods is the most urgent need on Virginia farms. Years of repeatedly cutting the better trees, and leaving the poorer ones, of excessive grazing, and of indiscriminate burning, have reduced a majority of the farm woods to little better than weed patches. So, although this project does not have the popular appeal of those promising more immediate returns, it is fundamental and so is worked into every other demonstration so far as circumstances permit. It is planned to emphasize this project under the E.C.W. Timber-Stand-Improvement demonstrations.

Correlating output with markets As market opportunities shift in location, in procurement practices and in the class of material utilized - it is important that the producer modify his practices in order to keep in step. This, the farmer, being a farmer rather than a forester, and naturally conservative, is loath to do. The result is that he frequently fails to take advantage of

markets which are close at hand or which promise better returns, merely because some other outlet is traditional. The lumber situation in Tidewater Virginia is a case in point. Lumber for wooden boxes was for years a staple product, and both forest and mill practices had become adjusted to that market. Trees were not cut until they were large enough to make sawlogs and so there was usually an abundance of seed to insure adequate reproduction. Recently cardboard cartons have taken the place of wooden boxes and most of the lumber which is sawed now must go into buildings. Along with this change there has developed a market for pulpwood which utilizes trees to a very small diameter and makes possible a clean sweep of existing timber. The sawmill operators find themselves in cut-throat competition for the diminishing box lumber trade. They persist in cutting their logs 12 feet long instead of 16, the length most desired by builders, and in an effort to recoup their losses on lumber, sell the remnant of the stand for staves or pulpwood so there is left neither seed trees nor young growth.

Other shifts of a similar nature are constantly taking place and almost without exception they tend toward stripping the land cleaner and cleaner. Two of our pulp plants employ foresters in their wood departments and definite progress has been made toward improved woods practices with each. In the case of one plant it takes the form of (a) requiring seed trees to be left on cut-over land (b) operating a forest nursery from which seedlings are sold to farmers at less than cost and (c) general educational work to interest farmers of

the surrounding country in better care of their forests. The only difficulty is that they (in the writer's opinion) overemphasize the pulpwood. It is the extension forester's belief that best results are usually to be had by combining pulpwood and lumber production.

In the case of the other plant, their cooperation has taken the form of experimenting with the use of off species and in liberalizing their specifications so as to enable the landowner (where he will) to cull his woods for material which will be acceptable for pulpwood but retain for further growth desirable specimens of the more valuable species.

A manufacturer is usually more alert and so more amenable to suggestion (provided he can be properly contacted) than a farmer. However, he is apt to be impatient and want to see results which accrue to his business, whereas the extension forester is thinking and working for the best results from the farmers' point of view. The two usually coincide but there are points of divergence. This line of effort has limitless possibilities and will be continued and expanded as opportunity affords. It is rumored that a third pulp plant is to employ a forester and that two or three new plants are to be located in the state.

Sustained yield is the objective of forest management, whether the products sought be material or intangible, and whether the owner be a corporation, the public, or a farmer. The traditional practice in disposing of farm timber has been to sell it by the boundary with few or no restrictions on the cutting. The purchaser brings in labor and equipment to handle it, while farm

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labor and equipment remains idle for five or six months out of the year. When such an operator leaves, the woods is a wreck and a liability for years. To improve this situation, this project looks to the marketing of a smaller quantity annually, with that smaller quantity handled by slack season farm labor. Thus there is made possible

- (a) Regularity of income from the farm woods.
- (b) Systematic improvement of the farm woods.
- (c) Profitable slack season occupation for farm labor, work stock and equipment.
- (d) A dependable and convenient supply of fuel, building and repair material and other forest products for use on the farm.

Reproduction is the key to forestry, just as sustained yield is the objective. Conditions for reproduction in Virginia have been so favorable and success so general that the belief has developed that no conscious provisions are necessary. As the old trees, which supplied seeds so abundantly, disappear, however, satisfactory sets of desirable young growth become fewer, and large areas, abandoned 20 to 30 years ago, are still without satisfactory cover. And most of them are either growing up to worthless brush growth or, if bare, are eroding badly.

The Chesapeake Corporation has for over a year, been requiring as a condition of sale of pulpwood to them, that not less than four seed trees per acre be left on land cut over for pulpwood. This is better than nothing, but cannot be depended upon to give satisfactory results. The extension forester and the county agents of several of the surrounding counties have developed a partial cutting project which carries the idea considerably further. To date it has not been very generally adopted but will be continued. As outlined, the project combines partial cutting, thinning and improvement principals. The company has agreed to a slight concession in the matter of delivery, to those farmers who follow this practice, but the demand for wood has been so insistent that this slight concession has been practically inoperative.

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The Chesapeake Corporation has also agreed to furnish loblolly pine seedlings to farmers of the surrounding counties for the purpose of reforesting farm land which for any reason has failed to seed in satisfactorily. The price has been placed at \$1.50 per thousand which is considerably less than it costs to grow them, and only half what the State Forest Nursery asks for the limited supply they have this year. Steps are now being taken to get the use of E.C.W. labor in planting several demonstration areas. This supply of seedlings is particularly acceptable this spring due to the increased interest in planting and the very low supply available from the State Forest Nursery.

Wildlife Conservation. As an outgrowth of the Wildlife Conference in Washington last winter there has been a tremendous increase in the emphasis being placed on Wildlife and its importance in our economic and aesthetic development. A special effort is being made to organize County Wildlife Associations, to bring together in one group all persons and organizations which have an interest in conservation. Forestry naturally falls in this class as forests are the home of more forms of wildlife than any other environment. The efforts of the extension forester has taken in three directions (1) assistance in the organization of county associations. (2) Informing himself as to the type of plants which are more urgently needed to round out year-round food and cover requirements and (3) Modifying silvicultural practices and recommendations so as to include all forms of desirable wildlife in forest management plans.

A project which combines most of the features of the above has to do with a working plan for a property belonging to King and Queen county. This property was used as a poor farm for many years but is not now serving the county in any capacity. It has a very good stand of timber on most of the property and is admirably situated to serve as a demonstration of good forest practice. The tract was mapped

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and estimated last summer. A working plan was then prepared and presented to the Board of Supervisors. To date no definite action has been taken, but I have been given reason to believe that a start will be made during the coming winter and spring. The plan proposes that the tract (some 375 acres) be held and managed as a permanent county forest, to: First, serve as a demonstration of good forest practice and; Second, serve as a reservoir of work-relief for those among applicants for county aid who were capable of doing woods work.

This tract is in the midst of the territory supplying most of the pulpwood to the Chesapeake Corporation. It is located within five miles of a landing on a stream of sufficient size to afford water transportation by fair sized boats, so that an unusually dependable market is readily available. There is now within 25 miles of the tract a C.C.C. camp from which labor could probably be secured to put the property into good shape to place such a plan into operation. It seems to be a very favorable set-up and so far as the writer could determine, was favorably received by the Board of Supervisors. However, it is a new idea, and it is public property which is involved, so action is likely to be slow.

Another project which involved a limited area was undertaken on the two Eastern Shore counties. Timber, pine timber especially, has for many years been highly regarded as a source of litter to use as humus in their farming system. The result has been that it was the usual practice to cut it only after the peak of growth rate had been passed and the annual leaf cast, as a result, was showing a decline. The value of the potato crop had been such that there was no temptation to cut the timber, and results were so satisfactory that little forestry work had been done on the Eastern Shore. Then came a series of

misfortunes: A succession of years in which there were ruinous crop conditions or ruinous prices: the depression; and finally two severe storms - one in August 1935 and the second September 11, 1936 - which destroyed and damaged a quantity of timber and caused much property damage. The result was a sudden increase in the amount of timber being sold and cut either to save it or to meet pressing obligations. But the worst of it was that much of the cutting was being done in such a manner as to make replacement doubtful if not impossible.

The week of September 21-26 was devoted to studying the situation. Based on this study a series of five articles were prepared and published in the leading papers of the Eastern Shore. The reaction has been gratifyingly favorable but one cannot avoid the feeling that better prices for potatoes this year may have had much to do with the better feeling and so to the favorable reaction.

JUNIOR PROJECTS:

Planting 1000 seedling trees; For four years the State Forester has agreed to supply "up to 1000 little trees", of such species as are available in the State Forest Nursery, to each 4-H club member who elects a planting project - provided the planting be done under the supervision of the county agent or extension forester and that they be used to reforest land which good land usage dictates should be in timber growth.

This has been a good project where it could be gotten under way in time. The difficulty has been that 4-H work has, as a rule, been organ-

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ized to accommodate the farm crop season, whereas forest planting must be done in late winter or early spring and application for the little trees must be on file well before this. In spite of repeated warnings, applications were received after all of the trees had been allotted - some even after the planting season had passed. It seems questionable whether this project will be pushed this coming spring unless an additional source of seedlings can be located. The number of seedlings available from the State Forest Nursery for the coming spring is very limited and the demand has been large. At present there are no seedlings in sight, except possibly locust. Planting makes an excellent project because of the sustained interest as the trees grow with the boy.

Due to the increased interest in the conservation of all natural resources that has been evident all over the country, a special effort was made to enlist 4-H members. Identification of trees has been a standard project for years, but this year there was added a study of trees, shrubs and other plants as they relate to feed and cover requirements for wildlife (with special reference to game) and to the prevention of erosion. One of the ammunition manufacturers provided a special fund for the purpose of paying the expenses to a wildlife camp of the two 4-H boys from each county who did most outstanding work in Wildlife Conservation. The forester got more from these projects than the boys.

(4) Methods;

The monopoly of the county agents time by the various emergen-

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oy and adjustment programs and projects has made it necessary for the specialist to do much of his work independently, also to do more of it on a service basis than is desirable. In many instances the county agent has asked that all details be arranged directly by correspondence between the farmer and the specialist. Recognizing the emergency situation, these requests as well as those resulting from contacts at meetings and from newspaper and agricultural journal items, have been responded to as well as possible, but it has resulted in much individual help rather than well organized demonstrations. Most of the county agents recognize the unsatisfactory situation and are as anxious to get back to regular extension procedure as are the specialists.

The pulpwood project in Halifax made no progress during the year. A few of the original cooperators continued to get out a few cords in conformity with the original plans but the majority lost interest when the price of tobacco improved, and with the county agent over his head in compliance and other emergency programs no new cooperators have been located. He is still much interested in the project, however, and expects to get back to it just as soon as possible - provided the Company will then give us the business.

The procedure agreed upon for handling the new E.C.W. Timber Stand Improvement project is as follows:

- (1) The county agent will select or help select the demonstrator, explain the project and secure the demonstrators signature to the agreement. When so signed, the agreement will be regarded as a formal application.

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- (2) The extension forester (or one of the district foresters of the Virginia Forest Service) will visit the farm of the applicant, select a suitable area, and discuss with the owner the type of stand improvement work proposed. If this meets with the approval of the applicant, the examining officer will prepare a report including the location and area, the type of treatment proposed and the estimated number of man-days of E.C.W. labor necessary, and submit the application to the State Forester.
- (3) If the State Forester approves, he will sign, and so make binding, the cooperative agreement. He will prepare and secure approval of the necessary work sheets and notify the extension forester of his action.
- (4) The extension forester will then notify the cooperator and, with him assisting, mark or otherwise designate the trees which are to be cut or otherwise treated. He will then prepare detailed instructions for the E.C.W. foreman, who will have charge of the work.
- (5) The C.C.C. boys will do the work, with the owner, or an accredited representative on the ground to see that the work is done in accordance with the plans agreed upon between the forester and himself. It is contemplated that this will consist of:
 - (a) Cutting all trees which have been indicated.
 - (b) Trimming them and disposing of the brush.
 - (c) Cutting the wood into convenient lengths.
 - (d) Stacking the wood where it can be reached.
 - (e) Opening such roads as may be necessary to reach the wood.

Because of the large amount of technical work involved and the shortage of technically trained men, also because of the desire to spread the demonstrations over as wide a territory and as wide a range of conditions as possible, it has been decided to limit the demonstrations to a few (in no case over five) per county and to make them good demonstrations in every respect. The county agent has been instructed to select his demonstrators on the basis of apparent good faith, especially in regard to clauses (a) and (c) of section 2 of the agreement. Also to explain to the cooperator that he is expected to: (1) accompany the forester and assist him to do the marking - because of the greater educational value, and in order to obviate the possibility of criticism, and (2) go into the woods with the C.C.C. crew and be responsible for seeing that they carry out the plan agreed upon between himself and the forester. This is partially for the sake of economy and partly a matter of sharing responsibility. We want the demonstrations to exemplify our idea of good forestry practice, but we want to shift to the owner as much of the responsibility for seeing that it is done in accordance with those practices as possible. It is, of course, expected that the foresters in charge of the technical phases will do as much inspecting as possible.

The weak point of this project is that forest work should be done by "foresters" and it is difficult to make much of a forester in such a short time. The boys are young, and irresponsible beyond belief. They must have careful supervision to avoid serious mistakes, and they can not be "close herded" for supervision because of the danger from injury. It is my idea to use this first

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winter to work out the details and test out the project. If it seems worthwhile and the demand warrants, we will be in position to give a reliable estimate of the amount of assistance that will be necessary to go into the project on a considerable scale.

When it became apparent that there was to be a serious shortage of pine planting stock from both the Virginia Forest Service and the Soil Conservation Service nurseries, arrangements were made with the forester of the Chesapeake Corporation to supply seedlings for both 4-H and adult forest planting. The price agreed upon is sure to be favorable (probably \$1.50 per M.) but they will not be available for planting beyond the territory from which the Chesapeake Corporation find it advantageous to buy pulpwood. They are enlarging their nursery this year and collected about 500 bushels of cones. It is expected that the number available for private planting will be considerably increased.

There have been no spectacular threats to the forests during the past year. The spring fire season was late getting started but lasted practically throughout the summer and fall. However, the C.C.C. camps made it possible to hold damage to a minimum. Insect ~~damage~~^{loss} was also slight. Although the season was extremely dry in many sections there are few indications of injury from the Southern pine beetle. However, this trouble frequently becomes more apparent the next year.

The Forest Clip Sheet and Timber Market Reports have been continued throughout the year, and, starting with ^{the} fall school term, forestry talks have been scheduled each alternate month - about twelve minutes per program.

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(5) Outlook:

The outlook for forestry as a farm enterprise is distinctly encouraging as soon as the abnormal activities, due to the various control programs, settle down into permanent form. The folly of raising poor crops on poor land is recognized more generally than ever before. The next question is apt to be one of land use; specially "What to do with those lands, which are taken out of agricultural production?" Farmers, because of their location, the nature of their primary occupation and the home demand for low grade forest products, are in a position to grow wood more cheaply than any other class of owners. In addition to this, they own a very large part of the productive forest area. The market for forest products has never been so organized as to encourage "sustained yield" management nor to encourage good farm forestry practices, but there is sure to be a change. The N.R.A. and the codes under it (although thrown out by court decisions) included much which is inevitable, including provisions for better forest management. Most users of forest products recognize this and still voluntarily comply with portions of the code requirements. It is only a question of time until the recalcitrant few are forced into line by public opinion or legal requirement. Economic pressure will force it.

Migration between farm and town seems to be pretty well at a stand still, and even though urban employment may continue to increase, it seems to be the consensus of opinion that, having completed the expansion

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period of our national development, progress from now on is apt to be a matter of acquiring the instinct for economy and development, to replace the old habit of exploitation and waste. Erosion control and maintenance of soil fertility on farm lands are an important part of such a program, but forestry (the management of forests for the sustained yield of those benefits for which the forests are maintained) will always be an important consideration in a state which, after 300 years of trial and error experimentation, is still between 60% and 65% forested.

There has been much talk of proper land use, but so far the Federal Government has been expected to bear the entire responsibility. This is absurd, and it is only a question of more sober consideration until it is understood that, while the Federal and State governments have their responsibilities, and will be compelled to handle most of the big projects, similar problems, but in miniature, are on every farm. And those farm problems must eventually be handled by the individual farmer. In other words, farming must either expand to cover the dictionary definition of "Agriculture", or farmers must take on a new responsibility coordinate with farming - forestry.

The conventional "average farm" in Virginia is approximately one fourth in cultivation, one fourth in pasture and one half in forest or potential forest. The day of certain profit through rising land values is past. Profits, as a rule, must come through production in a field which has become, and will remain, highly competitive. The farmer who is most apt

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to make a good living and to accumulate a competence for his old age under such conditions, is the one who makes the entire farm produce to capacity. Farmers have frequently been "land poor" because too much of their land was un-productive or only partly productive. With increasing competition, idle land will become increasingly burdensome. And much Virginia farm land must look to forestry to keep it permanently productive.

For the coming year it is planned to follow much the same plan as that outlined for the past year. It will consist of as much of the following as emergency programs will permit.

Forest Improvement.

- (1) Use of the thinning, weeding and culling principle in the harvesting of fluewood, pulpwood, stovebolts and similar products.
- (2) Fencing out livestock and filling in sparse spots in established forests.
- (3) Expansion of the E.C.W. - Timber Stand Improvement Work.

Planned harvesting of the mature crop.

- (1) To secure a regular income.
- (2) Profitable occupation for slack season labor.
- (3) Provision for future crops through natural reseeded.

Planting where it is needed.

- (1) To reclaim unprofitable farm land.
- (2) To control erosion and assist absorption.
- (3) To provide a home supply of fence posts and other special materials.

4-H Club Work.

- (1) Study of trees, especially for girls.
- (2) Planting (using trees from State Forest Nursery).
- (3) Improvement cutting, especially for boys.
- (4) Estimating standing timber, especially for larger boys at camps and short courses.
- (5) Conservation of Wildlife.

Market Study.

- (1) Continue market reports.
- (2) New outlets for farm forest products.

Forestry Clip Sheet

February, 1936.

Ten Pointers on Tree Planting

1. Keep roots moist all of the time. Cover with wet burlap or earth.
2. Make holes large enough to take roots without cramping, and provide drainage.
3. Use fertile top soil next to roots. If soil is very poor, get garden soil.
4. Plant tree at same depth it stood in the nursery as shown by soil marks.
5. Spread roots in their natural position and cut off with a sharp knife any that are broken or bruised.
6. Work fresh soil in among the roots and press it down firmly.
7. As soon as roots are well covered, fill rest of hole with water. When this soaks in, complete filling the hole, but leave the top soil loose.
8. Trim broken branches, also small limbs, back to next largest stem. Do not cut leader or central stem as a forked tree may result.
9. Large trees, or trees in exposed places, should be staked. To prevent chafing, protect the tree with a piece of old rubber hose or burlap. Do not fasten the support wire or twine tightly around stem.
10. Manure or compost, if available, should be used as a surface mulch - not next to the roots. Use fertilizers sparingly, if at all.

A Few Questions and Answers.

- Q. What kind of a tree shall I plant?
- A. One which grows naturally to a size and shape that will fit the place in which it is to stand; one which is as free as possible from insect enemies and weather damage; and one which has demonstrated that it will thrive in the vicinity.
- Q. Is it practical to move trees from the woods?
- A. Yes, if you select a small tree and are careful to get up a large part of the root system. Nursery grown trees, however, are always to be preferred. They have been root pruned and trained to transplant with the minimum of risk.
- Q. When is the best time to transplant?
- A. Deciduous trees can be transplanted any time during the dormant season, but early spring, before the buds start to swell, is usually best.
- Q. How should trees be watered?
- A. Leave a depression about the tree, or sink a tile on end. Water occasionally, but thoroughly, during extended drouths. If a hose is used, remove the nozzle and let a slow stream run all night, once or twice a month.
- Q. Should trees be cultivated?
- A. Shallow cultivation is helpful, but much the same effect may be secured by mulching with lawn clippings, straw or similar material.
- Q. When should trees be pruned?
- A. Pruning should start early and be frequent, but light. The idea is to train rather than to correct. Maple trees should be pruned in late summer or early fall. It is best to prune most other shade trees during the winter.

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COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS
 Va. A. & M. College & Poly. Inst. & U.S.D.A. Cooperating
 EXTENSION SERVICE

Clip Sheet

March 1936

Good Citizens Start Few Fires

They have discovered more profitable and less dangerous ways to care for what the careless man burns. Broom sedge and crop residues are plowed under to make humus. Brush is placed in gullies and on gall spots to reclaim them. Young pines are saved to protect the soil from washing and to grow timber.

April is our worst fire month. Last year's leaves are dry and new ones have not started. Winds are frequent and high. The smallest fire can get out of control in a moment and do incalculable damage.

Watch your community and see who it is that burns off fields. Is it the good farmer - the good citizen? Is it the man who is able and willing to pay for any damage that may result?

What Is A Cord?

The dictionary cord is a stack of wood containing 128 cubic feet, and is usually a pile of four sticks that measures eight feet long and four feet high. Local custom, however, has led to the use of other units. A stovewood cord may mean a pile of wood of the same height and length but only 12" or 16" deep, while a pulpwood cord may specify five foot sticks and call for as much as 180 cubic feet of stacked wood. Each "cord" has back of it some reason, and is satisfactory so long as all parties understand what is meant.

The man who cuts the wood is least concerned. His work depends more on the number of cuts than on the length of the pieces. To the man who hauls it, however, as well as the men who buy and sell, there is a great deal of difference. All three are directly concerned with the amount of wood. Because of this concern, some figures appearing in a recent report by the Appalachian Forest Experiment station, are of interest.

Most pulpwood cut in Virginia is five feet long so that length is used as a basis. Some is peeled in the woods, while some is bought unpeeled and the bark taken off at the mill. Because of these and other minor variations, the data given below is expressed in percentages and can be applied to piles of any size.

Freshly stacked, unpeeled, round, loblolly pine pulpwood, when cut into five foot lengths from trees of the size usually used for pulpwood, have been found to contain

64.1 percent of solid wood
19.2 percent of bark
16.7 percent of air space

When allowed to stand and settle for a month or longer, or when subjected to the settling effect of truck or rail transportation, freshly piled wood will shrink approximately 10% in height, but with a corresponding increase in the amount of solid wood.

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF VIRGINIA

VIRGINIA AGRICULTURAL AND MECHANICAL
 COLLEGE AND POLYTECHNIC INSTITUTE
 AND UNITED STATES DEPARTMENT OF
 AGRICULTURE, COOPERATING

EXTENSION SERVICE

Blacksburg, Virginia.
 November 16, 1936.

Dear Cooperators:

Enclosed is a copy of the October Timber Market Report. Although there is nothing spectacular, it is a good report and thoroughly in keeping with the continued improvement in business conditions.

E - X - T - R - A

There are two recent developments with which each county agent should be familiar. The first has to do with trees for planting next spring under the agricultural conservation program. Regulations came too late last spring to be applicable to us here in Virginia but, so far as I know, the same general plan will be followed next year.

The development is that the number of trees available for delivery next spring is very limited. For this reason, farmers who expect to reforest some of their steep or inferior land under the A.C. program should decide how much they desire to plant and get their applications on file at an early date. They may figure on about a thousand trees per acre and the same prices that prevailed last year, i.e. \$3.00 per thousand for Shortleaf pine, Loblolly pine and Black or Yellow Locust seedlings. There is a fair supply of locust, but only about fifty thousand each of the two pines.

The other development is a modification of the C.C.C. program which permits us to use this labor to put through demonstrations of forest improvement on private lands. The camps available to us are those designated as "P" camps - those under the supervision of the State Forester.

There are twenty four of these camps. Located in Wise, Dickenson, Bland, Roanoke, Alleghany, Bath, Warren, Bedford, Amherst, Albemarle, Madison, Prince Edward, Buckingham, Cumberland, Fluvanna, Louisa, Amelia, Chesterfield, Brunswick, Dinwiddie, Sussex, Hanover, Charles City and King and Queen. In addition to the county in which the camps are located, they are available for work in adjoining counties up to a distance of twenty miles from the camp.

Further details regarding both of these projects will be forthcoming as they are worked out.

Yours very truly

William O'Shea
 Extension Forester

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COOPERATIVE EXTENSION WORK
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AND UNITED STATES DEPARTMENT OF
AGRICULTURE, COOPERATING

EXTENSION SERVICE

Blacksburg, Virginia.
November 2, 1936.

Dear Sirs:

Enclosed is a summary of market conditions for Virginia-grown timber and forest products as reported to me during October by representative wood users and purchasers operating in all parts of the State.

I wish to take this opportunity to thank those of you who have assisted by furnishing data. The next request will go out in January, 1937. I trust that, with the coming of the New Year, there may then be an even larger improvement and an ever greater feeling of confidence.

Again thanking you for your cooperation, I am

Yours very truly

Wilbur O'Byrne
Extension Forester

WC'B:f

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS
 Va. A. & M. College & Poly. Inst. & U.S.D.A. Cooperating
 EXTENSION SERVICE

TIMBER MARKET CONDITIONS IN VIRGINIA
 October 1936

The following notes on prices and market trends for Virginia-grown forest products are intended to supplement and bring up-to-date, information contained in V.P.I. bulletin No. 276, "Marketing Woodland Products in Virginia." They have been summarized from reports furnished by representative wood-users and dealers; and, though they make no attempt to serve as a price list, it is hoped that they reflect an accurate picture of timber marketing conditions for the state as a whole. These reports are issued in February, June and October and will be sent to any citizen of the state requesting them.

The market for most items has remained steady; for some it has shown moderate increase since June. The Southern Lumberman says editorially: "In line with the general improvement in business conditions, the lumber market continues to forge ahead in a satisfactory manner. The bulwark of the market continues to be the demand from the construction trades, but the industrial demand has also been active, and practically all grades and varieties of lumber have been in good demand." Lumber, in spite of substitute propoganda, continues to be the leading structural material, and the condition of the lumber market is the best barometer of the forest-products industries.

The prices quoted below are those reported as being paid in October 1936 for certain key products. For prices paid at individual plants and for specifications, those who have forest products for sale should correspond with the purchaser. This office will be glad to assist timberland owners in contacting possible purchasers.

PULPWOOD: There is little change in the pulpwood market. Buying within the State has been active, but there is considerable variation in price. Unpeeled pine is quoted at prices ranging from \$4.00 per cord f.o.b. cars to \$5.50 per cord delivered at the plant. Pooled pine ranges from \$5.50 per cord f.o.b. cars up to \$8.50 per cord delivered to the plant. Poplar, lin, gum and cucumber range from \$6.00 per cord f.o.b. cars to \$8.00 at the plant. Little or no change is anticipated, either in price or demand.

EXCELSIOR WOOD is in fair demand. Quotations range from \$6.00 to \$7.00 per cord of pooled pine. The consensus of opinion seems to be that there is not apt to be much change in price, but that the demand should improve.

TANNING MATERIALS have recovered from the slump of last summer. Chestnut wood is quoted at from \$3.40 per cord of 160 cu.ft. f.o.b. cars at distant points to \$4.20 at nearby points. The price at the plant ranges from \$4.00 to \$5.00 per cord.

HEMLOCK bark is quoted at prices ranging from \$9.00 to \$11.20 per cord. Chestnut oak bark is in fair demand at prices ranging from \$8.96 to \$11.20 per cord. Black oak bark is in limited demand at 35¢ per 100 lbs. Sumac is in limited demand at 60 - 90¢ per 100 lbs.

SANLOG prices vary considerably with location and grade. Grades are largely an individual matter, and are not uniform. Pine, poplar, gum, oak and cypress are quoted at prices ranging from \$11.00 per M ft. for woods run pine 6 inches and over at the small end, to \$12.00 per M ft. for No. 2 and \$18.00 per M ft. for No. 1 grade. Maple logs are up somewhat, evidently due to the recent vogue for maple furniture. One plant quotes as high as \$20.00 for No. 1 maple logs. Old field pine bought by the cord for crating material is quoted at \$3.50 per cord of 123 cu.ft. for bolts ranging from 6" to 10" in diameter and \$4.00 per cord for bolts 10" and up.

VENEER LOGS. Quotations for veneer logs vary widely, especially for the lower grades. Poplar and gum, for utility veneer, range from \$10.00 per m.ft., Doyle scale, for No. 2 grade logs to \$20.00 for No. 1 and \$27.00 for selected logs. For finish veneers, No. 1 and prime logs range from \$29.00 per M. for poplar, baswood and hard maple to \$40.00 for choice white oak. One plant in the furniture territory quoted \$26.00 to \$28.00 for No. 1 poplar, gum, sycamore and oak with No. 2 logs as low as \$9.00. Sound wormy chestnut No. 1 grade and better is quoted at \$15.00 per M ft; green clear chestnut at \$20.00 to \$25.00 per M. Little change is anticipated either in price or demand.

LUMBER prices have improved in spots. The demand is good for most items. Pine ranges from \$12.00 to \$20.00 on grade, with the average price for mill run about \$15.00 per M ft. b.m. Oak ranges from \$14.00 to \$36.00 with an average of about \$22.00 per M ft. b.m. The outsidies usually being about \$2.00 per M less than standard lengths of the same grades. Chestnut ranges from \$12.00 to \$20.00 per M, with the sound wormy grade bringing \$16.00. Poplar ranges from \$12.00 to \$30.00, with an average of about \$20.00. Hickory ranges from \$14.00 to \$18.00. Maple, sycamore and walnut are in limited demand locally, but not in sufficient volume to establish a general price. Hickory and oak wagon stock ranges from \$35.00 to \$55.00 for hickory and from \$35.00 to \$75.00 for oak, when cut to dimensions from timber meeting very exacting specifications.

HANDLE STOCK AND DOGWOOD PRODUCTS: Dogwood is quoted at \$7.00 to \$8.00 per cord of 128 cu. ft. Oak at \$5.00 to \$7.00 per cord, or \$15.00 per M ft. b.m. Hickory at \$7.00 to \$10.00 per cord, or \$15.00 to \$25.00 for fitches. Ash \$8.00 to \$10.00 per cord, or \$17.00 to \$20.00 per M ft. log scale for suitable logs. Most operators report larger purchases than for several years, with prospects for continued improvement.

INSULAR PIN STOCKS: Locust is steady at \$11.00 to \$12.00 per cord of 128 cu.ft. or \$30.00 to \$35.00 per M. ft. b.m. when purchased as fitches. Oak is in limited demand at \$5.00 to \$6.00 per cord or \$14.00 to \$16.00 per M. in 2" fitches. The demand is reported as slow, with large stocks of raw materials on the yard.

CROSS TIES: The demand seems to be spotty, with wide variation in prices. Off woods are salable in limited quantities in northern Virginia points at prices averaging about 10¢ less than for oak of the same grades. Switch ties gots are quoted at \$20.00 per M. for mixed oak and \$20.50 per M. ft. for white oak. No. 1 ties (both white and mixed oaks) are quoted at 20¢ to 35¢ each. No. 5 ties range from 70¢ to 85¢. Heart pine and heart cypress ties are quoted at 55¢, 65¢ and 75¢ each for classes 3, 4, and 5 respectively.

MINE TIMBERS: Props average about 2½¢ per foot. Ties range from 18¢ for 4" x 5" x 5½' to 27¢ for those measuring 7" x 8" x 7'. Brattice lumber is quoted at \$20.00 per M. ft. b.m. delivered to the mine. Wedges are quoted at 1½¢ each.

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AGRICULTURE, COOPERATING

EXTENSION SERVICE

Blacksburg, Virginia.
December 1, 1936.

Woodland Demonstration By C.C.C.

Dear County Agent:

The timber stand improvement project is beginning to take shape, but with the wind up of the 1936 A.C. program and your annual reports to be considered, I have held off. This is merely to let you know the direction in which things are moving and to suggest that you come to the December conference prepared to give me some idea of the amount of time you think you will be able to devote to this project.

In order to have something to work on, I will try to give you some idea of what is apt to be involved. In the first place, let us get our terms straight. The Civilian Conservation Corps (C.C.C.) is the organization. Emergency Conservation Work (E.C.W.) is what they do. The Camps we will work with are those assigned to the State Forest Service and are designated by the letter "P" preceding the number (P-53). The radius of operation is 20 miles from the camp without regard to county lines. There are 24 "P" camps located as indicated in my letter of November 16.

It seems to me that three types of work are about all we should attempt at presents (1) thinning, (2) weeding mixed stands to improve the composition, and (3) clearing away hopelessly cull species and individuals from old out-over areas in order that desirable young growth may develop or become established.

The procedure will be about as follows:

The county agent will select the demonstrator, explain the agreement and secure his signature.

The extension forester, or some other qualified person, will visit the area and, with the assistance of the cooperator, mark the trees to be removed, estimate the amount of E.C.W. labor necessary to do the job and prepare instructions for the E.C.W. foreman.

The State forester will approve the agreement for the State, prepare necessary labor authorization and get it approved in Washington, and then instruct the proper camp superintendent to do the work.

The E.C.W. labor wills

Cut the trees which are indicated.
Trim them up and care for the brush.
Cut the wood to convenient lengths.
Stack it where it can be reached by wagon.
Open woods roads sufficiently to get the wood.

The above statement of work and procedure is tentative, and I suggest that you make no promises thereon. I believe it to be fundamental that we confine all demonstrations to operating farms and that we work only with cooperators who can be depended upon to carry out their side of the agreement in good faith and who will take a hand in the marking. This last is for three reasons:

- (1) This is a demonstration, and the demonstrator will learn more by actually doing it than by any amount of observation.
- (2) He will be present for the forester to consult as to objectives; and also to offer any objections before it is too late.
- (3) He will have no license for criticism if he later becomes disgruntled.

I hope to have everything straightened out by the time we get together December 14 and that we may then get set for full-speed-ahead right after Christmas.

Sincerely,

Wilbur O'Byrne
Wilbur O'Byrne
Extension Forester.

WO'Bsf

MEMORANDUM OF UNDERSTANDING
AS TO PROPOSED E.C.W. TIMBER STAND IMPROVEMENT DEMONSTRATIONS

In order that there may be no misunderstandings, it is suggested that each applicant for a Timber Stand Improvement Demonstration be supplied with a copy of this memorandum, and that he read and agree to its conditions before signing the Cooperative Agreement. His signature to said agreement will constitute formal application.

Conditions to which applicant agrees:

- (1) That the cooperator understands, and agrees to carry out in good faith, his part of the agreement. Special attention is directed to Section (2) clauses (a) and (c) which provide (a) for protection of the area from livestock and (c) that no timber be cut from the area for a period of five years without approval.
- (2) That the cooperator be present and assist the forester who does the marking. This is for three reasons: That there may be full agreement between the owner and the forester as to what should be done. That the owner may be thoroughly familiar with what is proposed in order that he may be prepared to carry out condition (3), and That the cooperator get the maximum educational value from the demonstration.
- (3) That the cooperator go into his woods with the C.C.C. crew and see to it that the cutting is done according to the understanding between himself and the forester in charge of the marking.

The procedure will probably be about followed.

- (1) The county agent will select the demonstrator, explain the agreement and secure the cooperators signature.
- (2) The State Forester will sign for the State. One of his assistants or the Extension Forester will arrange with the cooperator to go on the area and mark the trees to come out.
- (3) The closest C.C.C. camp will send in a foreman and crew to do the cutting.
- (4) The wood will remain the property of the cooperator to be moved at his pleasure.

Under normal conditions it is proposed that the C.C.C. boys

- (1) Cut (or otherwise treat) all trees which have been indicated.
- (2) Trim them up and dispose of the resulting brush.
- (3) Cut the wood into convenient lengths for handling.
- (4) Stack wood where it can be reached by wagon or truck.
- (5) Open such woods/roads as may be necessary to get at the wood.

COOPERATIVE AGREEMENT
ECW TIMBER STAND IMPROVEMENT DEMONSTRATION

THIS AGREEMENT, made and entered into this day of
19__ by and betweenhereinafter called the Cooperator,
and the State ofhereinafter called the State,

WHEREAS, the parties hereto desire to cooperate in the establishment of a timber stand improvement demonstration for the purpose of showing the most favorable method of improving the thrift and growing capacity of timber stands as a means of insuring their continuance and thereby increasing soil fertility and preventing soil erosion;

WHEREAS, the Cooperator desires to make land owned by him available to the State for such a demonstration;

NOW, THEREFORE, the State and the Cooperator do hereby mutually agree with each other as follows:

The State agrees:

To make, to the extent necessary for the aforesaid demonstration, stand improvement cuttings, such as thinnings or removing trees that are diseased, deformed, or of low value and, if needed, to plant young trees of desirable species for the purpose of increasing the density of the forest cover.

The Cooperator agrees:

- (1) To make available to the State, an area of his forest land to be definitely designated for said demonstration.
- (2) To protect in the following ways said area for a period of 5 years after the completion of the stand improvements made by the State.
 - (a) On or before completion of said stand improvement to provide, and subsequently maintain, adequate fencing to keep all livestock from entering upon the area.*
 - (b) Prevent damage from fire and maintain trails or firebreaks if needed to safeguard the area.
 - (c) Cut no timber except such as may be approved by the State.
 - (d) Give such additional care as may be necessary to maintain the stand in a thrifty condition.

* This requirement may be deleted (lined out) in agreements with respect to Southern pine areas where, due to adequate density and size of stocking, the State agency considers fencing definitely unnecessary.

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the day, month, and year first above written.

.....
Cooperator

State of..... By

Title
State Agency