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STATE OF NEW YORK

Forest, Fish and Game Commission

JAMES S. WHIPPLE
Commissioner

WILLIAM F. FOX
Superintendent of Forests

INSTRUCTIONS FOR

REFORESTING LAND

By C. R. PETTIS
Forester

ALBANY
J. B. LYON COMPANY, STATE PRINTERS
1909

Class SD 387.5

Book N6

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INSTRUCTIONS FOR REFORESTING LAND.

Introductory.

The requests for some information as to the best methods of reforesting land have become so numerous that it seems advisable to issue a pamphlet containing directions regarding the work.

So many of our people are now ready to undertake tree planting operations that some definite, detailed instructions for their use should be supplied. Hence we have combined here in one publication directions showing how to secure planting stock, what to plant, where to plant, when to plant, how to plant, and some information as to the results that may be expected.

How to Secure Stock.

The Forestry Department of the State of New York maintains several large nurseries for the propagation of forest tree seedlings and transplants — pine, spruce and other species—for reforesting the public lands and for distribution at a nominal price among land owners in this State who may wish to undertake reforesting operations on their own account. The price of these seedlings and transplants is small, being placed at the bare cost, but varies with the age of the plant and species.

Any land owner who desires trees for planting land in order to raise a forest can secure them while there is a supply on hand by making application to this Commission.

The application blank for 1909 was as follows:

Forest, Fish and Game Commission

Albany, N. Y.

Gentlemen.— The undersigned hereby applies for the following number and kinds of trees for planting in the town of . . .. County of ... ...State of New York:

.. ..White pine transplants at $4.25 per 1,000, f. o. b., Saranac Inn, N. Y.

... ...White pine seedlings at $2.25 per 1,000, f. o. b., Saranac Inn, N. Y.

... ...Scotch pine transplants at $3.75 per 1,000, f. o. b., Saranac Inn, N. Y.

... ...Scotch pine seedlings at $2.25 per 1,000, f. o. b , Saranac Inn, N. Y.

DESCRIPTION OF LAND TO BE PLANTED.

Topography ... ...
Original growth..... ... .
Present growth..... ....
Previous use of land..... .. ..
Kind of soil..... ....

In consideration of granting this application for trees at the price stated, the undersigned hereby agrees:

1. To pay the purchase price of the trees to said Forest, Fish and Game Commission within ten days after the granting of this application.

2. That the trees hereby applied for shall be used by the undersigned for the sole purpose of reforesting lands within the State of New York.

3. That the trees shall not be sold, offered for sale, or given away by the said applicant, or his agents, to any person.

4. That the trees shall be planted in accordance with instructions furnished by the Forest, Fish and Game Commission.

5. That the applicant shall furnish the Forest, Fish and Game Commission from time to time, when asked for, reports in regard to the condition of such plantings.

Signed.....

P. O.....

.....190..... Express office.....

It will be noted that this application is a contract made with this Commission. The first clause calls for payment within ten days after the trees are granted. This gives us the opportunity to resell any trees that the applicants do not pay for within that time. The second clause is necessary because the law under which this work is done requires that the trees shall be used for reforesting purposes. No trees will be sold for ornamental planting. The third clause prevents speculation and the interference with our work. The fourth clause simply means that applicants should follow the directions given in this pamphlet in regard to planting. The fifth clause asks that reports stating the condition of the plantation be made to this office, such information being desirable in order to secure data in regard to the work for the benefit of others.

What and Where to Plant.

The soil where the planting is to be done will, in a measure, determine what kind of trees should be used. The growth already on the land where the planting is to be done indicates the age or size of the stock to be used.

Relation of Species and Soils.— No complete directions covering such a large subject can be given in any small pamphlet, and in some cases examination of the land would be desirable before giving advice. There are, however, a few points that can be discussed generally here.

White Pine.— This species is usually found on sandy or light soils, but it will do well on any land that is well drained. It will thrive in good soil as well as any other tree when once established. The better the soil, the stronger its growth will be.

Scotch Pine.— On the poorest, sterile soils the Scotch and red pine makes a faster growth than white pine, but the timber in these species is not as valuable. These trees are particularly adapted to such sites because they have a long root which goes deep in the ground. The white pine is preferable, but on the poorest soils the Scotch pine will make a more rapid growth.

Spruce.— Our native spruce is a slow-growing tree and difficult to propagate. It develops so slowly that its use is not recommended. The Norway spruce, which is used extensively abroad, is a much faster grower and is equally desirable in all respects. It should be used wherever spruce is to be planted. The spruces all require soil of moderate quality, and should not be planted on sandy lands. They will withstand a large amount of shade, and their use is preferable for underplanting in an existing forest. It is also better adapted than most of our conifers for planting in swamps or wet locations.

Hardwoods.— At present we are not growing hardwoods in our nurseries; but in the Spring of 1909 we will sow a quantity of black locust and yellow poplar seed for distribution in 1910.

Whenever it is desired to raise oak or chestnut the acorn or nut should be planted directly in the field where the future tree is desired.

Size of Coniferous Plants Used.— The smaller the tree that can be planted and succeed, the cheaper the work can be done and the greater profit finally secured. There is less shock in moving small plants than large ones, which makes the risk and expense in planting smaller trees less. The size of tree required in order to succeed will be determined by the amount and nature of the vegetation where the planting is to be done, i. e., the amount of competition it will encounter in order to grow. Seedlings, two years old, are

large enough for planting on pasture or other lands where there is little or no shade. If, however, there is a heavy growth of weeds, or other plants making a dense shade, transplants should be used. Otherwise, there will be too many failures.

When to Plant.

Planting is best done in the spring, as early as possible, so that the trees may secure the benefit of the spring rains and become well rooted before the season's growth takes place. We will ship trees in the spring as early as possible, and they ought to be planted at once.

How to Plant.

When the trees arrive they should be taken to the planting field immediately and unpacked. The roots should be dipped in water and the plants "heeled in"; i. e., placed upright in a ditch, and the dirt packed tight around the roots. (See illustration.) They can be kept in this manner while the planting is in progress.

The number of men required and the organization of the force will depend entirely upon the amount of planting to be done. In these directions we will assume that only a small number of trees are to be set out—i. e., not over 10,000 plants. For larger operations the force must be increased.

The working unit is two men, one of them equipped with a grub hoe, and the other with a pail for carrying the little plants. Two men working thus as a pair—one making the hole and the other planting the tree—will, after a little experience, set out about 1,000 transplants or 1,200 seedlings per day. If only a few thousand trees are to be planted two men can do the work within the required time; but if many thousand, several pairs of men will be necessary.

The planting site having been selected, the men with the grub hoes will begin making the holes in a straight line across the field. It is well to set up a stake, or two, in order that the man digging

holes can move forward in a straight line. These stakes or poles can be moved over and used again when making the next row of holes. The planter follows immediately behind the grub-hoe man setting a tree in each hole before the exposed soil becomes dry. The planter's pail should always have enough muddy water in the bottom to keep the tree roots wet.

In making a hole, it is well to cut off and remove a thin slice of sod, as this gives the plant a better opportunity to grow. The hole should be large enough to give room for the roots without crowding; but on a light soil the least dirt that is moved in order to set the plants properly the better it will be. The plant should usually be placed in the ground at the same depth that it was before; but on light, sandy soil it may be set slightly deeper. The earth should be packed about the roots thoroughly, so that the plant will be able to get all the moisture possible from the surrounding earth. Care should be taken also to place the roots in their natural position.

Special pains should be taken to prevent any exposure of the roots to the sun. Once the roots become dry the plants are very likely to die. The trees "heeled in" should be kept moist at roots.

The men continue planting back and forth across the field until the work is completed. The trees planted in these rows should be set at regular distances apart and the rows also at even distances in order to properly utilize the soil and light and to secure in time the greatest product The spacing varies under different conditions, but for general forest planting six feet apart both ways is most desirable. When the trees are planted six feet apart in the row, and the rows are made six feet distant, it will require 1,200 trees to plant an acre. It will be readily seen that the interval used determines the number of trees required per acre, the amount of labor necessary to plant them and the cost per acre of the work.

It is absolutely necessary that a much larger number of trees be planted on an acre than would be found in a mature forest. A close, dense stand of trees is necessary while they are young in order to produce a proper development in the future growth. The close planting produces a crowded and shaded condition which kills off the side branches when the trees are small, reduces the number and size of the knots and finally makes a higher grade of lumber. The dense stand also causes the trees to grow much taller, and hence there will be more logs in a tree. The value of this close planting is easily seen when we compare the difference in trees which have naturally grown in a forest with those in the open.

There are, however, other considerations than growing the highest possible grade of wood material. We all realize that some soils will produce much larger quantities of farm crops than others. The land that is most likely to be used for tree planting will be the poorer, meager soils of a small productive capacity. Hence, in order to make the growing of wood crops profitable, consideration must be given to the quality and productive capacity of the soil where the planting is to be done. If twelve hundred trees per acre are planted, we would naturally expect to grow a tree having a diameter of twelve inches in less time than we would if there were seventeen hundred trees per acre. Therefore, in order to make planting profitable, we must not only grow good timber in dense stand, but at the same time aim at a profitable harvest in the shortest possible period.

Protection of Plantations.

After the plantation is made it should be protected from fire. Any light fire, even if it burns over only the dry grass among the little trees will kill or injure them, because their bark is very thin. The plantation should be protected also from cattle, sheep or other animals. Grazing should not be permitted.

Value of Planting.

In the destruction of forests by axe and fire which has been taking place in this country ever since settlement began, vast areas not adapted to agricultural purposes have been cleared, placed in farms, tilled for a time, the soil exhausted and then abandoned. These areas are of varying size, but in the aggregate are extensive. In some places they include a few acres of an occupied farm; at others they embrace entire abandoned farms. This land is lying idle, is not producing any revenue for its owner; in fact, is held at a loss because taxes must be paid, and the interest on the capital invested is lost. A large area of such idle land in any state is just as serious an economic proposition as idle labor, because both are non-productive.

Such land should be planted with small trees in order to grow forest crops and reap a future profit. The resulting forests will also make the country more beautiful, more habitable, more healthful and more enjoyable. These forests will protect the hillsides from erosion, prevent the floods which carry down debris and devastate the low lands, and will make the water in the streams more equable in its flow. These streams rendered cooler by the shade will support more fish, and the forest cover will also afford a shelter for birds and game. We can secure all these benefits, and at the same time realize a large profit from these idle lands if they are placed under wood crops.

Natural-grown forests are not the most valuable, because nature does not utilize the light and moisture to the best advantage; but by properly spacing the trees, as done in an artificial forest, more and better trees can be grown in a shorter period.

We have not many planted forests in this country old enough to give complete information of what can be expected from them. Therefore, we have to use natural growth in determining the yields from prospective wood crops. The quantity produced will, on the average, be less than what would be obtained from planted forests; therefore, these figures are conservative.

We have not yet had time to secure data in regard to the growth of white pine in this State, but careful examinations and measurements have been made in New Hampshire and Massachusetts which are just as reliable as a basis for computing future growths in New York as in those states.

The following yield table for white pine was constructed after examining and measuring 177 sample plats in Massachusetts of various ages in all parts of that state.

*Yield Table for White Pine.**

AGE (YEARS).	Soil Quality I.			Soil Quality II.			Soil Quality III.		
	1-in. boards.	Cords.	Cubic feet.	1-in. boards.	Cords.	Cubic feet.	1-in. boards.	Cords.	Cubic feet.
25	10,825	25.1	2,080	6,750	16.4	1,300	3,975	10.8	750
30	19,900	44.0	3,750	12,500	31.2	2,740	7,500	18.2	1,400
35	31,150	60.4	5,420	24,400	49.0	4,375	16,950	35.8	3,035
40	40,650	70.6	6,590	32,800	58.0	5,300	25,200	46.2	4,080
45	49,350	78.0	7,420	40,600	64.8	6,075	32,100	51.8	4,785
50	55,150	84.2	8,035	46,500	70.0	6,725	37,550	56.6	5,475
55	59,650	89.2	8,575	50,550	74.8	7,200	42,100	60.8	6,015
60	63,600	93.4	9,075	53,200	79.2	7,655	44,550	64.6	6,340
65	67,050	97.2	9,550	56,600	83.0	8,050	46,150	68.4	6,550

*After Harold O. Cook, under the direction of F. W. Rane, State Forester of Massachusetts.

Photo C. R. Pettis

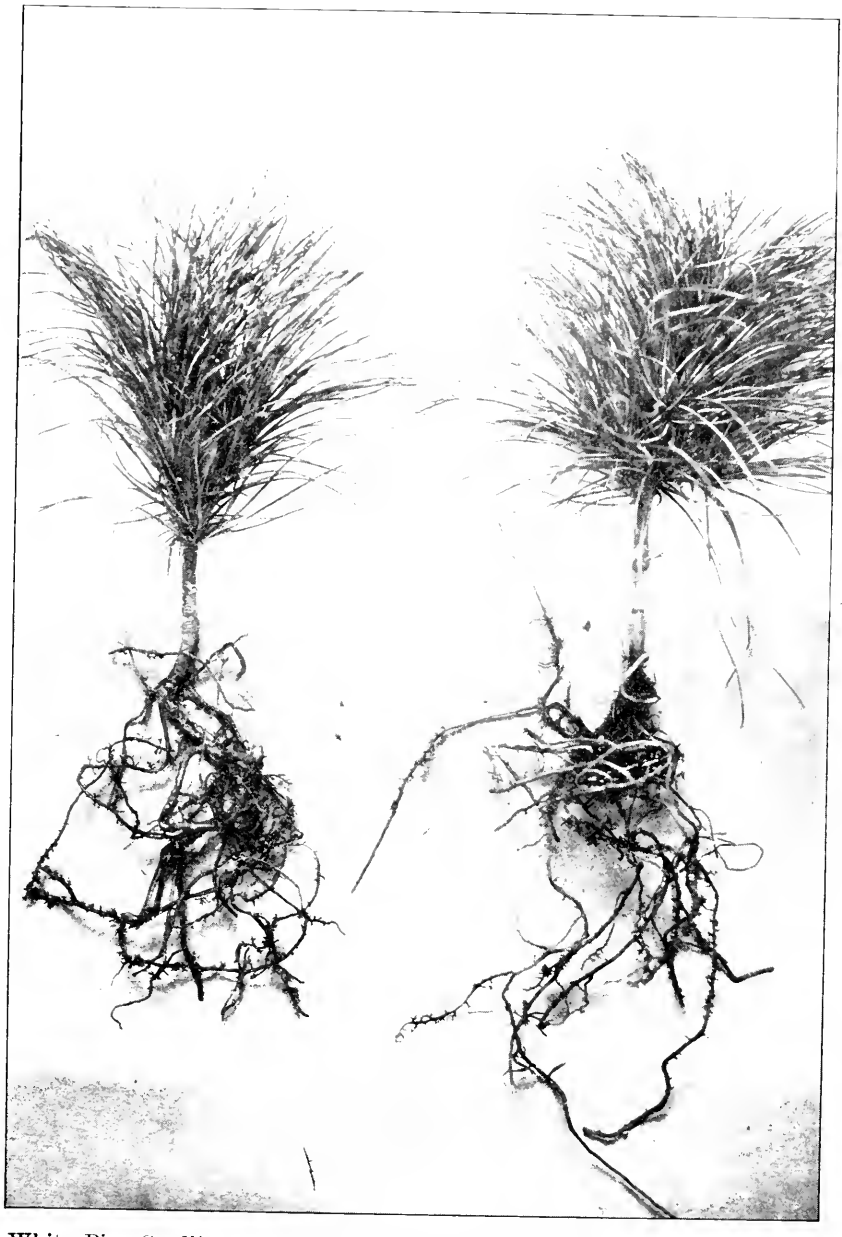
General View Saranac Nursery.

Photo C. R. Pettis

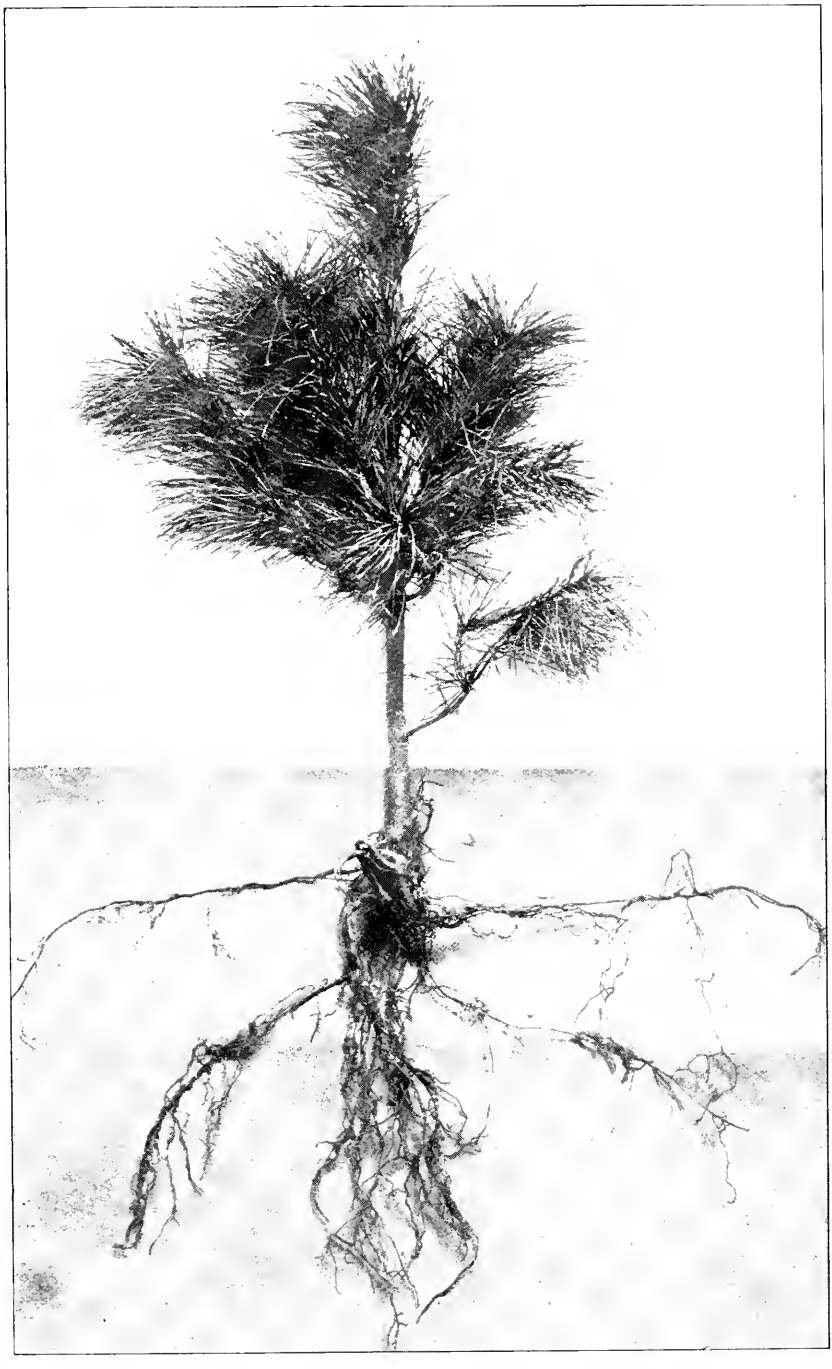
Four-year-old Transplants, $4.25 per 1,000.

Photo C. R. Pettis

Group of Seed Beds—Seedlings $2.25 per 1,000.



White Pine Seedlings, 2 Years Old, Before Transplanting—½ Natural Size.
New York State Nurseries.



White Pine, 4 Years Old, Once Transplanted — ¼ Natural Size.
New York State Nurseries.

Scotch Pine, 4 Years Old, Once Transplanted — $\frac{1}{4}$ Natural Size.
New York State Nurseries.

Norway Spruce, 4 Years Old, Once Transplanted — $\frac{1}{4}$ Natural Size.
New York State Nurseries.

Trees Heeled In — A Safe Way to Keep Them a Few Days Until They Can Be Planted

Photo A. Knechtel

Reforesting operations on waste land in the Adirondacks. Mattock men in the first row, planters in second row. The pails are used for carrying the little seedling trees.

The Four Steps in Planting a Tree

Photo A. Knechtel

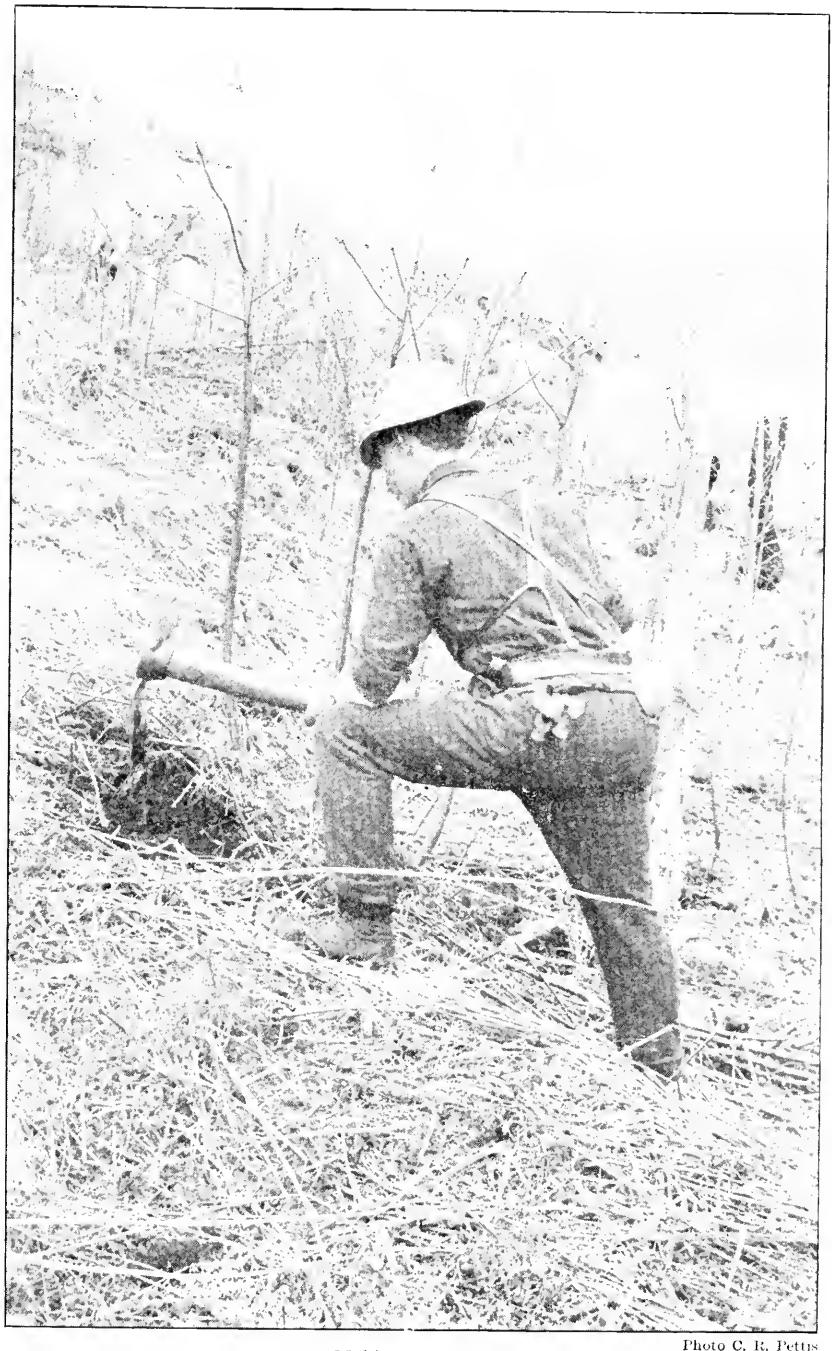


Photo C. R. Pettis

Making the Hole

Photo C. R. Pettis

Planting a Seedling Tree.

Photo A. Knechtel

Plantation of 650 acres made in 1902; photographed in 1906. Set out originally with 4-year old transplants 10 to 14 inches high; trees now 6 feet high and making leaders each year 18 to 26 inches long. Trees planted at 5 foot intervals and all alive. The area included in this photograph is planted with Scotch pine.

Photo C. R. Pettis

Scotch Pine Plantation Six Years after Planting—(Same plantation as shown on preceding page).

Photo C. R. Pettis

White Pine Plantation Six Years After Planting.

Plantation of White Pines, Made in 1885, by Mr. Charles H. Faxon, on His Land near Chestertown, Warren Co., N. Y.

Photo. A. Knechtel.

Second growth white pine grown from wind-sown seed. Trees are too far apart to shed their lower branches naturally.

White Pine Grove — Saranac Lake Village. Long Clean Trunks Due to Density of Stand.

This table indicates at a glance that much more timber can be grown in the same period of time on good soil than on poor soil. The highest production was found on the rich lowlands, where the soil was deep, rich and moist, but withal well drained. The upland pasture, our hillsides and upland plateaus, which form the largest part of land where wood crops will be planted, is indicated by soil quality two. The rate of growth here is not far below that of soil quality one, because the pine finds its demands as regards moisture, food supply, etc., well supplied. The third quality of soil consists of the wet, cold, mucky swamps, or the most sterile drifting sands. For the purpose of this publication soil of the second quality will be considered, because this is the kind of soil that will most largely be used for growing forest, raising crops of timber and wood materials.

The table shows in a most striking manner how the quantity of timber increases with the age of the forest. It, therefore, shows what a short-sighted policy and poor financial plan it is to cut growing forests. It will be seen that a forest thirty years old contains nearly twice as much lumber as one twenty-five years of age, or a thirty-five-year-old crop three and one-half times as great as when harvested at twenty-five years; also, that while it takes twenty-five years to grow the first 6,750 feet of lumber nearly 40,000 feet more can be grown in a second twenty-five years—i. e., allowing the crop to grow fifty years.

The land owner is also interested in knowing what he may expect in the way of financial returns as well as quantity production. For this purpose the following interesting tables, which were prepared by the State Forest Service of Massachusetts, are herewith published with the permission of Frank Wm. Rane, State Forester of Massachusetts:

Money Yield Table.

Manufactured and stumpage values.

AGE (YEARS)	Quality I.					Quality II.					Quality III.				
	Volume.	Per M. Ft.	F. O. B. Value.	Per M. Ft.	Stumpage.	Volume.	Per M. Ft.	F. O. B. Value.	Per M. Ft.	Stumpage.	Volume.	Per M. Ft.	F. O. B. Value.	Per M. Ft.	Stumpage.
	Bd. ft.					*Bd. ft.*					*Bd. ft.*				
25	10,825	00	$173 20	00	$68 00	6,750	00	$108 00	00	$40 50	3,975		$63 60		$23 85
30	19,900	1/2	348 40	3/4	149 10	14,500	1/2	600 00	3/4	75 00	7,800	00	170 00	00	45 00
35	31,150		498 40		249 20	24,400		439 20		195 20	16,950	1/2	271 20	1/2	101 70
40	40,650	00	701 70	1/2	325 20	32,800		590 40	00	262 40	28,250		493 70		264 60
45	49,350	1/2	888 30		394 80	40,600	00	730 80	1/2	324 80	32,100		577 80	00	256 80
50	58,150		990 70	00	551 50	46,800	1/2	857 00		468 00	37,850	00	670 00	1/2	400 40
55	59,650	00	1,193 00	1/2	596 80	50,550		910 00	00	505 50	42,100	1/2	757 80		336 80
60	63,600	00	1,272 00	00	763 20	54,200	00	1,084 00	00	542 00	44,550		802 00	00	445 50
65	67,050	1/2	1,341 00	1/2	804 50	50,600	1/2	1,132 00		566 00	40 150		853 70	1/2	461 50

Financial Rotation of White Pine.

Money at 4 per cent.; value of land, $4 per acre; cost of planting $7 per acre.

ROTATION (YEARS).	Gross returns stumpage value.	Expenses.						Net profits.
		Taxes.			Cost of producing.			
		Taxes on timber.		Taxes on land accrued to end of rotation.	Interest on value of land accrued.	Cost of planting carried to end of rotation.	Total expenses.	
		Annual for five-year periods.	Accrued to end of rotation.					
25	$40 50	$0 54.0	...	$2 17	$6 66	$18 66	$27 50	$13 00
30	75 00	1 00.0	$3 03	2 90	8 97	22 70	37 60	38 40
35	105 20	1 26.9	9 32	3 82	11 78	27 62	52 54	142 66
40	262 40	3 49.8	18 47	4 92	15 20	33 61	72 20	190 20
45	324 80	4 33.0	42 16	6 25	19 36	40 89	108 66	216 20
50	465 00	6 20.0	75 76	7 90	24 43	49 75	157 85	307 15
55	505 50	6 74 0	127 04	9 90	30 58	60 52	228 05	277 45
60	532 00	7 08.0	192 60	11 35	38 08	73 64	315 68	216 32
65	506 00	7 54.8	281 32	15 18	47 20	89 60	433 28	132 72

Money at 5 per cent.; value of land, $4 per acre; cost of planting, $7 per acre.

ROTATION (YEARS).	Gross returns stumpage value.	EXPENSES.						Net profits.
		TAXES.			COST OF PRODUCING.			
		TAXES ON TIMBER.		Taxes on land accrued to end of rotation.	Interest on value of land accrued.	Cost of planting carried to end of rotation.	Total expenses.	
		Annual for five-year periods.	Accrued to end of rotation.					
25	$40 50	$0 54.0	.....	$2 50	$9 54	$23 70	$35 75	$4 75
30	75 00	1 00.0	$5 13	3 48	13 30	30 25	50 15	24 85
35	105 20	1 20.9	9 80	4 73	18 06	38 61	71 20	124 00
40	262 40	3 49.8	19 85	6 54	24 16	49 28	99 83	162 57
45	324 80	4 33.0	45 60	8 37	31 94	62 40	148 82	175 98
50	465 00	6 20.0	83 36	10 99	41 87	80 27	216 50	248 50
55	505 50	6 74.0	142 37	14 30	54 54	102 45	313 66	191 84
60	532 00	7 08.0	220 82	18 55	71 70	130 75	441 83	90 17
65	566 00	7 54 8	331 40	23 97	91 35	166 88	613 60	−47 50[1]

[1] Minus sign means a loss; the investment bringing less than 6 per cent. interest return

Money at 6 per cent.; value of land, $4 per acre; cost of planting, $7 per acre.

ROTATION (YEARS)	Gross returns stumpage value.	EXPENSES.						Net profits.
		TAXES.			COST OF PRODUCING.		Total expenses.	
		TAXES ON TIMBER.		Taxes on land accrued to end of rotation.	Interest on value of land accrued.	Cost of planting carried to end of rotation.		
		Annual for five year periods.	Accrued to end of rotation.					
25	$40 50	$0 54.0	.....	$2 90	$17 17	$30 04	$50 10	—$9 61[1]
30	75 00	1 00.0	$3 21	4 18	22 97	40 20	70 56	—4 44[1]
35	105 20	1 20.9	10 28	5 90	30 72	53 80	100 69	94 51
40	262 40	3 49.8	21 30	8 20	45 14	72 00	146 04	115 76
45	324 80	4 33.0	49 48	11 26	55 06	96 35	212 15	112 65
50	465 00	6 20.0	89 04	15 37	73 08	128 94	307 03	151 97
55	505 50	6 74.0	160 30	20 87	98 60	172 55	452 32	53 18
60	532 00	7 08.0	255 23	28 23	131 94	230 90	646 30	—114 30[1]
65	566 00	7 54.8	390 52	38 08	176 56	308 98	914 14	—348 14[1]

[1] Minus sign means a loss; the investment bringing less than 6 per cent. interest return.

Changes in Net Profits with Variation in Cost of Land and Planting.

MONEY VALUED AT -	VALUE OF LAND, $2 PER ACRE.					
	PLANTING, $5.		PLANTING, $7.		PLANTING, $10.	
	Financial rotation.	Net profit.	Financial rotation.	Net profit.	Financial rotation.	Net profit.
	Years.		*Years.*		*Years.*	
4 per cent	50	$431 60	50	$323 35	50	$302 50
5 per cent	50	298 56	50	275 43	50	241 00
6 per cent	50	239 35	50	202 50	50	147 25

Changes in Net Profits with Variation in Cost of Land and Planting.

MONEY VALUED AT	VALUE OF LAND, $4 PER ACRE.					
	PLANTING, $5.		PLANTING, $7.		PLANTNG, $10.	
	Financial rotation.	Net profit.	Financial rotation.	Net profit	Financial rotation.	Net profit.
	Years.		*Years.*		*Years*	
4 per cent	50	$321 37	50	$307 15	50	$285 84
5 per cent	50	271 43	50	248 50	50	214 10
6 per cent	50	194 80	50	158 00	50	102 70

Changes in Net Profits with Variation in Cost of Land and Planting.

MONEY VALUED AT	VALUE OF LAND, $6 PER ACRE.					
	PLANTING, $5.		PLANTING, $7.		PLANTING, $10.	
	Financial rotation.	Net profit.	Financial rotation.	Net profit.	Financial rotation.	Net profit.
	Years.		*Years.*		*Years.*	
4 per cent	50	$305 17	50	$290 96	50	$269 64
5 per cent	50	245 00	50	222 10	50	187 68
6 per cent	50	150 30	50	113 46	50	58 20

There is profit not only in growing white pine, but also Norway spruce and many other kinds of wood. With permission of Mr George Aiken, manager of the Billings farm at Woodstock, Vermont, we submit the following data in regard to profits derived from growing Norway spruce on that farm. One acre was planted with three-year-old Norway spruce, eight feet apart each way, requiring 289 trees to the acre. The land was poor, sandy hillside, unfit for cultivation. In 1908, when the plantation was thirty-two years old, or thirty-five years from seed, four average sized trees were cut. Their measurements were as follows:

No.	1	72	ft. high,	11	inch butt cut		46½	ft. of logs	6"	at top end				
"	2	57	"	"	18	"	"	"	45½	"	"	"	"	"	"	"
"	3	63	"	"	14	"	"	"	42	"	"	"	"	"	"	"
"	4	67	"	"	16	"	"	"	40	"	"	"	"	"	"	"

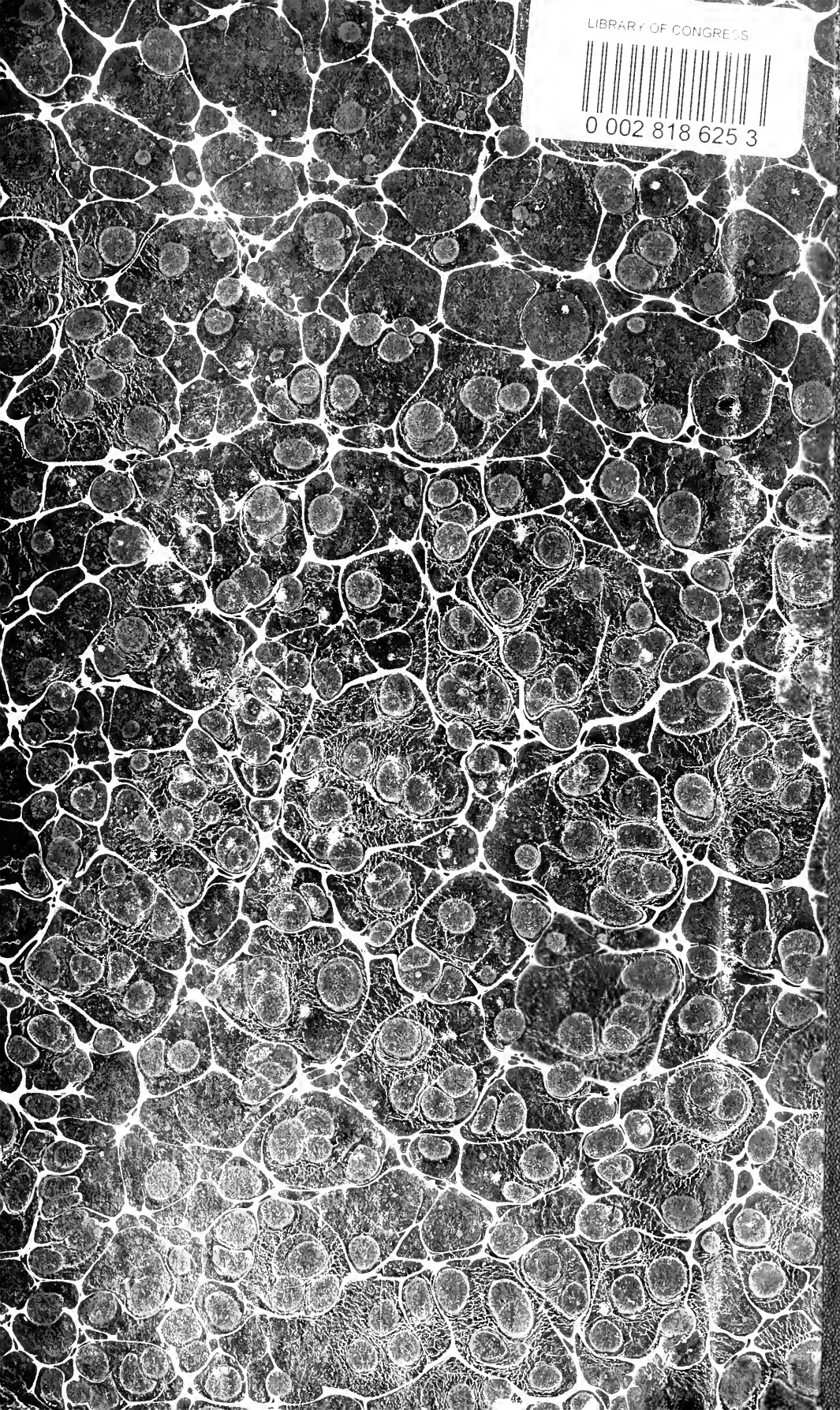
Four trees produced one cord of pulp wood; or the acre, if cut, would have yielded 172½ cords, which at the prices paid there at the present time, $6.50 per cord, would give the income from this acre $1,120.00 in thirty-two years.

Placing the value of the land at $5.00 per acre, cost of trees and planting at $5.00 additional, making a first cost of $10.00 per acre computed at compound interest would amount to $65.50. To this should be added the taxes for the thirty-two years $7.50, making a total investment of $73.00, leaves a net income of $1,046.86, or a yearly average of $36.72 per acre, from poor, wornout side hill pasture land worth about fifty cents per annum for grazing. The pulpwood cut here was sold to the International Paper Company, who made it into paper at the Bellows Falls Mill. Mr. Edward Barrett, superintendent of this mill, reports as follows: "*The Norway spruce test:* One cord of rough wood, 71 sticks 4 feet long, after preparing for grinder room, gave us 98 cubic feet. This made 1,828 pounds of dry woodpulp. The spruce worked nicely on the paper machine, and under the same conditions as our regular spruce, gave us a higher test for strength and a brighter shade, with the same amount of color."

With all these facts we hope our farmers and woodland owners will be impressed with the profit they can derive from planting their idle land.

This Commission is just as much interested in the forests or woodlots of any private owner as it is in the great forests of the Adirondacks or Catskills, which are under our jurisdiction, and we will at all times be glad to render any land owner assistance so far as circumstances will permit.

Lr 0 '09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