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OF  
**ROSEDALE**

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HISTORY

of

ROSEDALE                      FOREST

1927 - 1951

NORTH EAST (ENGLAND) CONSERVANCY

## HISTORY OF ROSEDALE FOREST

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## HISTORY OF ROSEDALE FOREST

### GENERAL DESCRIPTION OF THE FOREST

#### Situation

Rosedale Forest lies on the southern edge of the North Yorkshire Moors in the North Riding of Yorkshire. It is six miles north of Pickering. Allerston Forest lies a few miles to the east.

Name. The name is derived from the Rosedale Valley running to the west of the Forest.

#### Area and Utilization

The area statement is given in Tables I and II (pages 2 and 3).

Formerly the forest was agricultural land with extensive moor grazing. Woodland occurred as coppice on steep gill sides or as shelter belts and sporting plantations. More recently the land has been managed mainly for grouse shooting, the sheep carrying capacity of the moorland being very low.

Division of the Area. Though final settlement is not yet complete, some 2,400 acres comprising the more valuable agricultural land is being transferred to the management of the Ministry of Agriculture. This agricultural land, some of it rough grazing, and some of it enclosed pasture and arable land, is in scattered blocks mainly in the newer Keldy acquisitions. Situated thus, it will in fact form valuable strategic fire breaks among the blocks of forest. The forest is divided for administration into two beats, each in charge of a Forester, the Cropton Beat west of the Stape-Pickering road and the Pickering beat to the east of this road.

National Parks. The forest lies within the boundaries of the area designated as the North Yorkshire Moors National Park.

#### Physiography

The forest includes the indented edge of the North Yorkshire Moors and the Corallian escarpment. It is bounded on the south-east by the 300 ft. - 400 ft. deep glacial overflow channel of Newtondale and on the West passes across Rosedale. The drainage system is relatively young.

The main physiographic types are:-

1. Open moorland with gently rolling slopes rising to 925 ft. Exposed and with a general southerly aspect.

TABLE I

From	By	Date	Plantations Acquired	Plantable excl. Col. 4.	Nurseries	Agricul- tural.	F. W. H.	Unplantable	Other Land			Total
									Permanent Transfer	Temporary Transfers		
1	2	3	4	5	6	7	8	9	10	11	12	13
E. Gill	Conveyance	4. 10. 27	55	1683	5	25	150	10		Shelter Banks Farm to Ministry of Agriculture.	82	2010.329
* (P. B. Reckitt " "	Lease Lease	5. 5. 27 10. 11. 30										( 735.574 ) ( 77.620 )
B. Pollock	Conveyance	11. 10. 48	332	4780		10	85	7		East Keldy withheld by Ministry of Agriculture. Tenanted pending planting.	2282	8370
I. N. Tomlinson J. De Savary J. De Savary	Conveyance " " "	9. 3. 36 7. 6. 50 4. 12. 50		51 90 115		52				Part Elleron withheld by Ministry of Agriculture.	74	51. 90. 241.
R. S. Standliffe	"	3. 4. 51		43								43
Total			387	6762	5	87	235	17			3312	10805

\* Two leases which were later incorporated in the Conveyance of 11.10.48.

Note Col.10. Division of the area may be subject to some amendment.

TABLE II  
Area and Utilization  
As at September 1951

a)	Plantations		
	Acquired	387	acres
	Formed by Commission	<u>2794</u>	"
		3181	
b)	In hand awaiting Planting		
	Blanks after felling	10	"
	Burnt areas	-	
	Other land	<u>3958</u>	
		3968	
c)	Nurseries	5	
d)	Agriculture		
	Permanent 4 tenancies	87	
	Tenanted pending final allocation	<u>874</u>	
		961	
e)	F.W.M. 20 Holdings	235	
f)	Unplantable		
	Residential and Estates cottages	15	
	Unplantable Forest land	<u>2</u>	
		17	
g)	Other land		
	Various farms to Ministry of Agriculture	2438	
		<hr/>	
	Total	10805	acres
		<hr/> <hr/>	

Note:

Transfer to Ministry of Agriculture is not yet completed and division of the area may be subjected to some amendment.

2. Long gentle to moderate slopes from the moor to the valley and moorland drainage channels. Moderately exposed. Aspect mainly south.
3. Steep to precipitous slopes of main streams, gills, Newtondale and the escarpment. All aspects. Generally sheltered.

### Geology

Rosedale lies between the anticline of the North Yorkshire Moors and the corresponding syncline of the Vale of Pickering. The rocks belong to the Oxford Clay and the bottom of the Corallian series and were laid down as conditions changed from argillaceous to arenaceous. The rather gritty clay outcrops at the bottom of Newtondale and again back on the moors. The main mass of rocks are interbedded silicious grits, shales and sandstones passing into a calcareous grit. Little, if any, glacial deposits occur but the soils of Newtondale are founded on tallus.

### Soils

The soils vary greatly from light sands and sandy loams to heavy loams and clay. Slight leaching of the sandy moor soils has occurred. Structure on the moor is cloddy but under trees and on steep slopes a good crumb structure develops. B horizons tend to show mottles of gleying. Thin peat covers most of the moor and part of the forest. There are also two deep peats, a poor fibrous Eriophorum basin peat and a black granular peat developed on long slopes probably with impervious substrata. Moderate peat under Calluna is frequent.

### Springs and Drainage

Water follows the more permeable strata along a slight southerly dip and emerges as a line of springs which are either permanent or transitory. Winter wetness is very deceptive. On the moor water is sometimes held near the surface by the more impervious strata.

### Landslips

The scar at Newtondale is eroding rapidly yet because of its structure remains vertical. The slope below, particularly at the north-east end is subject to slumping generally from a depth of 2 ft. to 3 ft.

### Vegetation

Heath and Moorland. The main vegetation type is Calluna heath or moor conditioned by fire and grazing. The dominant species is Calluna

associated to a greater or less degree with one or more of the following species: Molinia, Erica cinerea, Erica tetralix, Juncus squarrosus, Juncus communis, Deschampsia flexuosa, Vaccinium myrtillus, Vaccinium vitis-idaea, Empetrum, Scirpus, Hypericum spp, Rumex spp or lichen. Indications are that protected from fire and grazing the Calluna would oust most of the other species while under canopy the vegetation changes to Vaccinium myrtillus with Deschampsia flexuosa. In the wetter places Molinia and such ferns as Aspidium filix-mas and Asplenium spinulosum occur. Two moorland communities occur; Erica tetralix with Calluna over deep peats on poorly drained slopes and Eriophorum over deep basin peat.

A bracken community occurs over small areas on steep slopes. Elgee (Journal of Ecology Vol.II. 1914) considered these represented former woodland sites. The lower valley slopes bear a richer vegetation of Pteridium, Rubus, Agrostis spp, Deschampsia caespitosa and herbs. There is generally hardwood scrub or coppice on these areas.

Natural Woodland. Natural woodland communities are probably moist oakwood in the gills with oak and birch higher up. Natural tree species are oak, ash, birch, alder. Established introductions are sycamore and Scots pine. Other, not so successful introductions before acquisition are European larch, Norway spruce and beech.

### Meteorology

Climatic Zone. The forest is in the East Coast climatic region of the British Isles.

Temperature. The mean annual temperature is 48° F; 40° F in January and 60° F in July. The mean weekly temperature is uniform ranging from 38-41° F in winter and early spring, rising steadily<sup>by</sup> 1° F per week from the middle of March to early July thence after August there is a steady autumnal fall. The growing season (weekly normal above 42° F) lasts 35 weeks. Spring begins between the 4th and 11th of May.

Rainfall. The mean annual rainfall is 30 in. with an even distribution apart from a spring minimum in April and a dry September. There is, however, a greater annual deviation from the mean in the North Riding than in any part of Eastern England.

Snow falls on about 20 days each year.



Sunshine averages 3.5 hours each day.

Wind. The prevailing wind is south-west to west. Gales blow on an average of 14 days per year mainly in the winter.

### Risks

Wind shows its effect on the moor where parts of shelter belts running east to west are more stunted than those running north to south. In larger woods the effect is not serious. Wind strikes the brow of Newtondale scar and the effect here is more serious but of small extent.

Frost damage occurs in the lower parts of the forest.

Snow break of young Scots pine has occurred on the moor edge.

Biotic risks. Sheep frequently stray and cause a good deal of damage. Rabbits are not serious on the moors.

Landslips. Landslips occur particularly in Newtondale. It is not yet apparent how serious this is.

Fire. Fire danger is serious in Newtondale where the Whitby branch line passes the forest on an uphill gradient. Frequent fires start and burn in towards the forest. Most are of small extent though one has been serious (13 acres). Latterly there have been fewer fires from this cause. Attempts have been made to establish fire breaks and lately a strip has been let out to grazing, alongside the railway. Other fires have been started from lop and top fires and unknown causes including one serious one of 46.5 acres. One of the worst aspects of fires in this area is their tendency to burn for a long time in the peat.

A fire was caused by lightning in May 1952. It struck in the centre of the forest on the P.38 mixture of Scots pine and Sitka spruce and burnt 35 acres before it was extinguished. It is believed to be the only serious fire caused by lightning in the Commission woodlands

The main fire danger period is from March to June, but there is a subsidiary period in September and October if the weather is dry then.

### Roads

When originally acquired the only roads serving the area as it then was, were District Council roads from Cropton to Hartoft End, on the western boundary, Cropton to Newton on the Southern boundary, and the Pickering-Newton Stape road 2 miles to the east of Cropton acquisition, and a mile to the west

of the Newton Dale part of the property. The moor was crossed by rough cart tracks and drove roads impassable to vehicles, and the only access for materials to Newton Dale was by the Pickering-Whitby Railway line, where goods were dumped at Raindale siding and had to be brought by cart from there. Most of the plants used for planting Newtondale came this way.

It was not until 1947 that any serious road making was done by the Forestry Commission. By then preparations had to be made for extraction of produce from the rapidly-developing plantations, and a year or two later the acquisition of the Keldy Estate to the North and East of the original Cropton Forest made further access necessary both for planting and extraction of produce from the acquired plantations.

Towards the end of F.Y.51,  $4\frac{1}{2}$  miles of metalled all-weather and 3 miles of fair weather roads had been constructed by the Forestry Commission. It was only at the end of F.Y.51 that the Forester's house at Rapers Farm in Newton Dale was connected to the Stape-Pickering road by a serviceable all-weather road. Roads constructed by the Forestry Commission are shown on the 6 in. photoprint attached to the history.

In addition to the all-weather roads many rides have been bull-dozed to make them passable in dry weather to wheeled vehicles, and at the same time to act as fire-breaks.

### Labour

In the early years of the forest a sizeable labour force was rapidly built up owing to the closing of the Rosedale ironstone mines. Between 1928 and 1930 an average of 35 men were employed at Cropton beat, most of them travelling from Rosedale by bicycle. By 1938 the labour force had dropped to 20 men. After the war the labour force was built up to 60 men in 1951. Most of them were transported by lorry from Rosedale and Cropton, the remainder coming from the forest holdings.

On Pickering beat the labour was available locally - recently a number of men have been travelling by lorry from Pickering though this transport is only available when the engineers are working in the forest or a contractor is travelling out from Pickering.

## SILVICULTURE

### Preparation of the ground

Scrub. The treatment of so called scrub, mainly birch re-growth of size and density varying from 6 ft. high thickets to scattered trees 20 ft. or more in height, which occurred over much of the banksides, has varied with the evolution of the silviculture of this type of woodland, which has itself depended on whether the produce could be sold.

Most of the earlier plantings sought to replace this scrub directly with a conifer, birch, prior to 1946, having little market value. The new trees were, therefore, planted through and through the birch to a complete stocking and the birch cleaned, felled or girdled according to its size to allow the newly planted crop to get established. The birch was not used silviculturally as an overstorey over an underplanted shade bearer to be progressively removed. Owing to labour difficulties in the war years, cleaning and girdling or felling of birch over only partial shade bearers or light demanders was often much delayed and the planted crop suffered.

In recent years such birch areas are used as silvicultural cover, and, as the market value of the birch from 3 in. - 8 in. diameter is as high as that of conifers, thicket stage birch is allowed to grow on to turnery size before being opened out for underplanting. With this system, weeding and cleaning costs are very greatly reduced.

Heather. Heather has been burnt as far as possible before all operations.

Draining. Draining has been necessary especially where springs had had been fouled by logging operations. On wet parts of the moor pre-draining has been carried out and has been effective. These moors are wetter than the Allerston and Wykeham moors.

Fencing. It has been necessary to erect rabbit proof fencing on all boundaries adjoining cultivated land and in the dales. On the open moor, only sheep fencing was necessary.

Floughing. The degree of cultivation has increased during the history of the forest. Inspection reports on early P.years note significant improvement of growth with increased hand cultivation. In F.Y. 34 shallow ploughing was carried out at Cropton using an Oliver plough and subsoiler. Two years

later similar treatment was carried out at Pickering. In F.Y.43 the R.L.R. plough developed by Messrs. Russell's of Kirby Moorside some eight miles from the forest was used for deep ploughing at Cropton. Since that year on Cropton, and from F.Y.50 on Pickering, this plough has been used over the majority of the planted area.

The greater part of the forest is good ploughing land. Heather is burnt before ploughing. Furrows are spaced  $4\frac{1}{2}$  ft. apart with an unploughed furrow every 50 yards. The Guthbertson plough was used in F.Y.51 to provide turves and drainage on 40 acres of Eriophorum peat. Establishment is easier in ploughing and the crop is much more uniform. Mixtures of Sitka spruce and Scots pine in one row or two row mixture have been extensively planted. On large parts of the F.Y.43 R.L.R. ploughing the Sitka spruce is now growing above the Scots pine though thicket has not formed; this has not happened with less thorough ploughing, there the Sitka spruce grows slowly until the thicket is formed. On Cropton Section Compartment 38 prepared with the Oliver plough and subsoiler and planted in P.38 is at a similar stage of growth to the adjacent Compartment 24 which was planted in P.34 by notching into the unprepared surface. Compartment 23, ploughed with the R.L.R. in F.Y.43, is rather more advanced and much more uniform than Compartment 36 and Compartment 37 nearby planted P.42 on Oliver ploughing with subsoiling.

### Choice of Species

Scots pine. This species is the main and most successful component of the acquired plantations. Older trees regenerate freely. At first it was planted on hard heather ground and other dry sites. More recently it has been reorganized as the safest species on all sites. Much of the acquired plantations are composed of trees of a wide crowned variety, and have suffered from snow break. Damage has, however, been small. Plants have been mainly 2 + 1 put in at a spacing of  $4\frac{1}{2}$  ft. x  $4\frac{1}{2}$  ft.

Corsican pine. Corsican pine has grown very well in one of the acquired plantations. It has been tried on the moor where its suitability is in doubt owing to the heavy foliage making it liable to wind damage and to the possibility of Brunchorstia at the higher elevations now being planted.

The plants were 1 + 2 transplants planted at a spacing of 7 ft. x 3 ft. on shallow ploughing.

Pinus contorta. This species has been used on the moor on a small scale only. Plants 2 + 2. Spacing  $4\frac{1}{2}$  ft. x  $4\frac{1}{2}$  ft.

Norway spruce. Some well grown trees exist on the acquired plantations mainly on the moister sites. It has been used mainly on the lower slopes and has proved fairly successful. The trees remain quite healthy but there is a dry look to the foliage. There is no sign yet of the die back at Rosedale which is doing so much damage at Allerston. Plants mainly 2 + 2. Spacing  $4\frac{1}{2}$  ft. x  $4\frac{1}{2}$  ft.

Sitka spruce. On the clays and silts of the lower valley slopes and bottoms. Sitka spruce has done well and there are some remarkably good stands particularly on the western boundary in Compartments 15-18, P.28-34. This was mainly old woodland.

On the moorland Sitka spruce was planted extensively from P.30 - P.49 either pure or in mixture with Scots pine in 1, 2 and 3 row mixtures. Pure Sitka spruce has only succeeded in deeper peat with a predominantly Molinia or bracken vegetation; it has failed in heather here as elsewhere. One row mixtures with pine have been unsuccessful, but the 2 and 3 row mixtures on R.L.R. ploughing show that Sitka spruce can be established on the moorland. Whether this is justified on these dry moors in a low rainfall region is still doubtful and can only be assessed when the Sitka spruce reach the pole stage.

Douglas fir. Douglas fir has been used successfully on fertile lower slopes. The P.28 stand in Cropton, Compartment 15 is the best in the Yorkshire State Forests. It is a highly satisfactory species for the rocky middle slopes of the valleys.

Japanese larch. Japanese larch has been used on the lower slopes of Newtondale where it has proved entirely suitable. On the moor fire breaks of Japanese larch have been planted and show such good growth, especially on moister sites, that the use of this species on a much wider scale for planting on the moorland is justified. Slight indications of heart rot have appeared in first thinnings in Compartment 21 (P.34). Plants used were 1 + 1 or 2 + 1. Spacing mainly 5 ft. x 5 ft.

Other conifers: Tsuga heterophylla and Thuja plicata have been planted in ornamental belts. Neither species has been very successful. European larch occurs in the acquired plantations. In mixture with Scots pine it is generally poor but planted alone has produced some very good trees both in the dales and on the moors. These trees regenerate freely in places. Some of the European larch develops heart rot fairly early but canker has not been serious.

Hardwoods. Hardwoods have been planted on a small scale only, mainly on roadside belts. Some of the lower valley slopes would grow satisfactory hardwoods in the next rotation, and the indications are that beech and wild cherry will be most suitable.

### Planting.

Method of Planting. First planting was done with the mattock. This was superseded by spade planting generally a T notch with turfs for spruce. Latterly planting has been done with a spade on ploughed land.

Manuring. Manuring was first done in F.Y. 32 in Cropton Beat. 1 oz. basic slag per plant was applied to Sitka spruce. Later North African phosphate was used but no difference between the two has been noted. On unploughed land the manuring has not prevented the trees going into check.

Establishment. For all species establishment has been irregular and generally slow. For example some areas of P. 30 Norway spruce are not yet established and will probably take a further five years before they are. Douglas fir and Japanese larch are generally the best. Knot whorls and growth rings of acquired plantations show their early growth to have been slow, sometimes very slow but after 15 or 20 years growth has been good.

The following table sets out the rate of planting:-

TABLE III

Progress of Planting by Forestry Commission

<u>P. Year</u>	<u>Cropton</u>	<u>Pickering</u>
28	284.0	-
29	159.8	50.2
30	158.1	102.4
31	168.1	87.9
32	105.0	53.0
33	98.8	52.3
34	63.8	53.0
35	41.2	27.7
36	42.8	19.7
37	35.8	32.1
38	44.9	25.9
39	55.2	30.5
40	40.6	27.0
41	49.0	24.2
42	50.0	20.0
43	40.6	-
44	45.0	13.4
45	8.2 (R. P. Fire 46.5)	11.6
46	50.9 /1541.8 /	4.5 /624.9 /
47	60.4	6.0
48	5.0	-
49	56.9	- (R. P. Fire) ( 13.0 )
50	93.3	67
51	131 /346.6 /	208 /281.0 /
Totals	1888	906
Grand Total	2794 acres	

A total of 59.5 acres has been replanted after fire up to Sept. 1952.  
Area planted reduced by 10.5 acres in Compartments 1 and 2 by clearing a grazing strip.

Beating Up

Beating up has not been widely needed except where a wrong choice of species has been made. In the past all dead plants were repeatedly replaced. This was unnecessary and now partial replacement takes place in the first or second year after planting. In some of the Sitka spruce areas Scots pine has been introduced and in some cases formed a crop to the exclusion of the Sitka spruce. Japanese larch has almost completely superseded beech in fire belts.

Draining. It has become evident in Newtondale that the springs create a drainage problem requiring frequent attention.

Weeding. Weeding has been required on the bracken areas of Newtondale sometimes into the fifth year. Heather grows quickly on the moors and unless the trees get away fairly quickly they get swamped and it is necessary to cut the heather.

Rates of Growth.

Early growth is generally slow and uneven. There is a marked falling off in height growth as the dale sides are ascended. The following table contains examples of estimated mean growth based on measurements with an Abney level. They are taken in areas where establishment is complete :-

TABLE IV  
Rate of Growth

Compt.	P. Yr.	Age	Species	Soil	Altitude Aspect Exposure Slope	Estimated Mean Ht. (ft.)	Remarks
<u>Pickering Beat</u>							
7	30	21	S.P.	Moist loam	700 ft. S. Sheltered Steep	35	Best at the bottom of the slope 50 ft.
<u>Cropton Beat</u>							
Flamborough W. S.							
1		53	S.P.	Wet, sour humus loam	675 ft. S. moderate gentle.	72	Acquired neglected.
Keldy W. S.							
6		31	S.P.	Sandy loam	600 ft. S. Exposed gentle.	36	Acquired
8		25	S.P.	Dark loam	550 ft. S.W. moderate gentle.	35	Acquired
9		44	S.P.	Black loam on sand	575 ft. S. moderate moderate	52	Acquired
Cropton W. S.							
75		60	S.P.	Moist sandy loam	425 ft. S moderate gentle.	58	Acquired. Mixed open woodland.
46	28	23	S.P.	sandy loam Molinia	550 ft. S. moderate gentle.	22	



Compt.	P. Yr.	Age	Species	Soil	Altitude Aspect Exposure Slope	Estimated Mean Ht. (ft.)	Remarks
<u>Cropton W. S.</u>							
11	P. 28	23	S. P.	Heavy loam brambles and herbs.	750 ft. S. W. moderate moderate	40	Foot of steep slope growth decreases to about half on rising 200 ft. to moor.
24	P. 34	17	S. P.	Heavy loam over clay heather/ <u>Molinia.</u>	750 ft. S. W. Exposed gentle	16	
27	P. 30	21	S. P.	Heavy loam <u>Molinia.</u>	700 ft. S. W. moderate gentle.	20	
75		60	C. P.	Moist sandy loam.	425 ft. S. moderate gentle.	71	Small group, in mixture with broad- leaves.
36	P. 42	9	C. P.	Gritty clay <u>Molinia.</u>	800 ft. S. W. Exposed gentle.	4	Shallow ploughing at wide (7 ft.) spacing. Best ground 8 ft.
<u>Keldy W. S.</u>							
6		105	E. L.	Sandy loam	600 ft. S. Exposed gentle.	68	Acquired. Regeneration area.
<u>Keldy W. S.</u>							
9		44	E. L.	Black loam on sand.	575 ft. S. W. moderate moderate.	54	Acquired. Mixed with S. P.
<u>Pickering Beat</u>							
11	P. 31	20	N. S.	Moist loam	700 ft. S. Sheltered steep.	42	Tallest 48 ft.
<u>Crompton Beat. Keldy W. S.</u>							
8		39	N. S.	Moist black loam.	550 ft. S. W. gentle.	50	Acquired
<u>Pickering Beat.</u>							
6	P. 30	21	S. S.	Wet black loam.	600 ft. S. Sheltered gentle.	52	Small group
<u>Cropton Beat. Keldy W. S.</u>							
8		25	S. S.	Black loam	550 ft. S. W. Moderate gentle	35	Acquired

Compt.	P.Yr.	Age	Species	Soil	Altitude Aspect Exposure Slope	Estimated Mean Ht. (ft.)	Remarks
<u>Cropton W.S.</u> 7	29	22	S.S.	Black loam	425 ft. W. moderate moderate.	33	Foot of steep slope
<u>Pickering Beat</u> 4	29	22	D.F.	Light cloddy loam	500 ft. S. moderate moderate	43	
<u>Cropton Beat.</u> 8		23	<u>Keldy W.S.</u> D.F.	Black loam	550 ft. S.W. Moderate gentle.	52	Acquired
<u>Cropton W.S.</u> 16	28	23	D.F.	Deep moist loam	325 ft. S.W. Sheltered moderate.	44	
36	42	11	J.L.	Gritty clay <u>Molinia</u>	800 ft. S.W. Exposed gentle.	8	
27	42	11	J.L.	Heavy loam <u>Molinia</u>	700 ft. S.W. Moderate gentle.	16	
<u>Flamborough W.S.</u> 3		25	J.L.	Leached cloddy sand over yellow loam.	650 ft. S. Moderate gentle.	43	Acquired, neglected.

#### Past Treatment of Established Plantations

Acquired plantations all show signs of past neglect but are being improved by normal silvicultural tending. A small area of European larch has been opened for natural regeneration.

In the Forestry Commission plantations brashing and first thinnings are made more difficult by the irregularity of establishment. On Pickering Beat a further difficulty was the necessity of keeping the labour employed near the railway in case of fire. This has been removed by the provision of a road. Drains are cleaned out after thinning.

## Research - Note by the Research Branch

Only two experiments have been carried out in Rosedale Forest and both are concerned with the use of phosphate in the form of basic slag as a manure for Scots pine and Sitka spruce growing on heather ground. The results for the first 8 years show a marked response to phosphate by both of the species.

At Banks nursery experiments were carried out in 1948/49 by Dr. E. M. Crowther on behalf of the Nursery Nutrition Advisory Sub-Committee. These experiments concerned the growth of Sitka spruce transplants and in the first year nitrogen in the form of ammonium sulphate gave a very marked response in growth. In 1949 transplants from a heathland nursery were tested and it was found that seedlings which had not benefited from nitrogen and potash applied in the heathland seed beds did in fact put on added growth as transplants, whereas seedlings which had responded to phosphate in the nursery did not show a further response in the transplant lines. This result forms a link in the chain of results obtained by Dr. Crowther showing the overall benefit of the application of fertilizers, even when the results are not immediately obvious.

### Conclusions

- (i) In the dales, and valleys growth of all species has been most satisfactory. There are exceptionally fine stands of Douglas fir and Scots pine with good plantations of Sitka spruce.
- (ii) On the moorland the status of Sitka spruce is still doubtful. It can be established on R.L.R. ploughing in strip mixture with pine, but to what extent it will develop beyond the pole stage in a physically dry soil in a low rainfall area is doubtful.
- (iii) Scots pine on the moorland is showing good growth with rapid establishment on ploughed ground. Corsican pine must be regarded as doubtful in view of danger of Brunchorstia.
- (iv) Japanese larch has shown surprising vigour as a pioneer on the moorland and its use can well be extended.
- (v) The indications are that beech and cherry will be the most successful hardwoods, with red oak also satisfactory. The area does not provide sites for other hardwoods.

## History of Rosedale Forest

### APPENDIX I

#### Notes from Inspection Reports

##### Cropton Beat

Note on Mr. Sangar's Report 10.1.33.

There are about 80-100 acres of Scots pine planted in P's 28, 29 and 30 which are still in check and the future of this area is doubtful.

.....Practically all the remaining land comes within the doubtful category and until the results of the present planting show what is going to happen particularly to Sitka spruce on this area further planting should be, I think, severely curtailed or stopped.

##### Inspection by Sir Alexander Rodger. 9.7.35

(In) the P.28 area ..... the growth of Scots pine although slow was noted to be improving.

The late frost damage in this area (Black Park P.29) was very severe.

Sir Alexander Rodger considered that further planting on this area should proceed very cautiously and only after adequate soil preparation.

##### Visit of the Assistant Commissioner. 17.9.36

A general view of the forest ..... confirmed the opinion often given during the week that ploughing followed by careful planting of pine - usually Scots pine not Sitka spruce - is the only reasonable method so far known of afforesting the greater part of this type of moorland.

##### Assistant Commissioner's Inspection. 7.10.37

Compartment 62 ..... last year's ploughing in which a number of naturally regenerated seedlings have started. The instruction was given that planting of this area must not be considered for at least three years, as it is fairly certain that planting will not in fact be necessary.

Compartment 63. These rather poor old woods are to be brashed and pruned to make the best of them. Insufficient drainage appears to have been one factor in bringing about their present condition.

P.31. Replacement of Norway spruce by Scots pine was approved but this ground as a whole appears suitable for Sitka spruce.

It was agreed that a few chains of the belts (failed beech) might be tried with Japanese larch (as a fire break).

Compartment 19, P.29. Adverse comment was made on the introduction of too many trees at late beating up.

Chairman's Inspection. 17.7.37.

Compartments 30-2. Sitka spruce badly checked but now showing signs of recovery.

Compartments 42-44. P.34-36 Scots pine and Sitka spruce partly on ploughed ground (clay). It was considered that on the whole too much Scots pine had been used on types such as Molinia-Myrica where Sitka spruce would have been proper.

Tour of the Commissioners. 28.5.39.

Compartments 8-13. P.29, 28. The very slow and irregular growth of the Scots pine was commented on, and it was agreed that the early very large programmes in more or less unknown conditions and especially with inexperienced labour were a mistake.

Compartment 41. P.37. Scots pine ploughed and subsoiled. It was considered that Scots pine and Sitka spruce in equal mixture as now used on the mixed Calluna-grass types would have been preferable. (An unexpected development was the appearance of more grass after ploughing, rather than more heather, and this is now allowed for in deciding upon species).

A/Assistant Commissioner Inspection. 16.7.42.

Compartment 77. P.28 Norway spruce. Making varied growth on different vegetational types; the Norway spruce which failed on the heather ground have been beaten up with Scots pine and in places the pines are having a nursing effect on the remaining Norway spruce.

Compartments 58, 59. P.40 Sitka spruce and Scots pine. Even mixture of Scots pine and Sitka spruce on ploughed and subsoiled ground; both species were observed to be making better growth on the calcareous grit than in the clay.

Visit of the Chairman. 11.7.44.

Compartments 41-43. P.35, 36, 38. A comparison was made between the Scots pine and Sitka spruce on unploughed ground and the same species on ploughed and subsoiled ground, the effect of cultivation on the growth of both species is very marked.

Visit by the Chairman. 9.5.49.

Compartments 3-1. P.33 Pure areas of Sitka spruce should have been mixed with Scots pine. Beech should be introduced.

Compartments 22-23. P.44 - mixture of Sitka spruce and Scots pine - on research area delayed basic slag had been applied and the results have justified the extra expenditure so far though the Chairman pointed out that trees not treated might catch up yet.

Visit by the Conservator. 12.10.50.

High Muffles. Where there is any heather there must be pine, and if the clay content is high the species should be pure Scots pine. Where there is pure Molinia Sitka spruce should be used but care should be taken with this species if a reversion of Calluna to Molinia is unlikely.

Pickering Beat.

Visit by the Chairman. 9.5.49.

Compartment 14. It was noticed that the Scots pine (P.37) introduced by pit planting on high ground and steep slopes is poor.

P.31. Growth of Norway spruce satisfactory though it may be about six years before it is ready for thinning. Some cleaning is needed at once.

History of Rosedale Forest

APPENDIX II

Supervision

Conservators

1946 - 7	Mr. R.E. Fossey (Acting)
1947 - 50	Mr. G.J.L. Batters
1950 - date	Mr. C.A. Connell

Divisional Officers

1928 - 39	Mr. A.D. Hopkinson
1939 - 48	Mr. R.E. Fossey
1948 - 50	Mr. W. Forsyth
1950 - date	Mr. P.F. Garthwaite

District Officers

1928 - 33	Mr. A.H.H. Ross
1933 - 39	Mr. R.E. Fossey
1939 - 47	Mr. A. Paterson
1947 - date	Mr. T.G. Wood

Foresters

Cropton

1928 - date	Mr. Frank
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Pickering

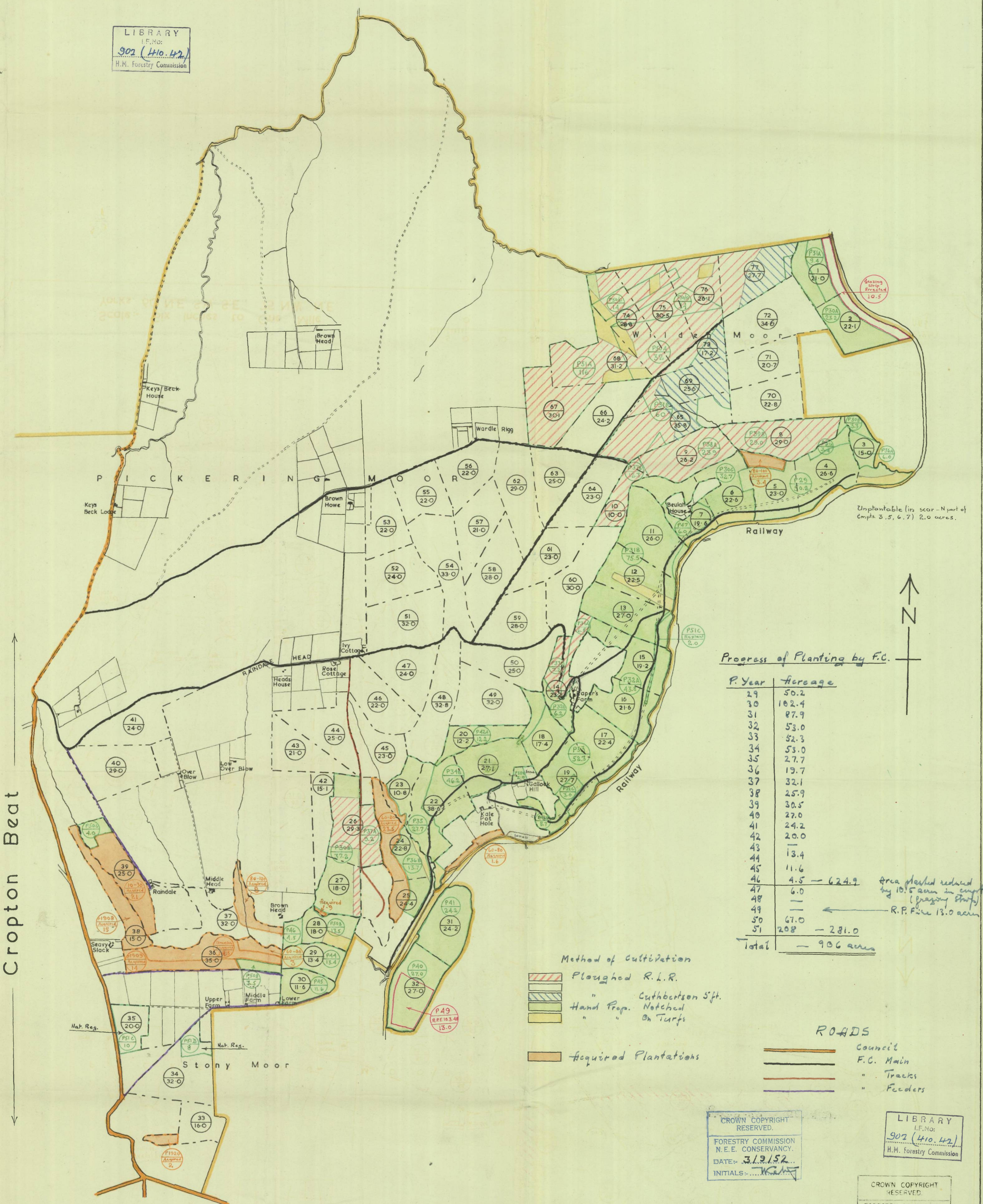
1929 - 48	Mr. A.E. Lewis (Foreman promoted Forester 1937).
1948 - 51	Mr. R.E. Young
1951 - date	Mr. W.F. Bartlett

Rosedale



# ROSEDALE (PICKERING)

LIBRARY  
I.F.No:  
902 (410.42)  
H.M. Forestry Commission



Unplantable (in scar - N part of Empts 3, 5, 6, 7) 2.0 acres.

Progress of Planting by F.C.

P. Year	Area
29	50.2
30	102.4
31	87.9
32	53.0
33	52.3
34	53.0
35	27.7
36	19.7
37	32.1
38	25.9
39	30.5
40	27.0
41	24.2
42	20.0
43	13.4
44	11.6
45	4.5
46	6.0
47	6.0
48	—
49	—
50	67.0
51	208
<b>Total</b>	<b>906</b>

Area marked reduced by 10.5 acres in emp't 1, 4, 2 (Praying Sticks)  
R.P. Fine 13.0 acres

- Method of Cultivation
- Ploughed R.L.R.
  - " Cutbertson's ft.
  - Hand Prep. Notched
  - " " On Turfs
  - Acquired Plantations

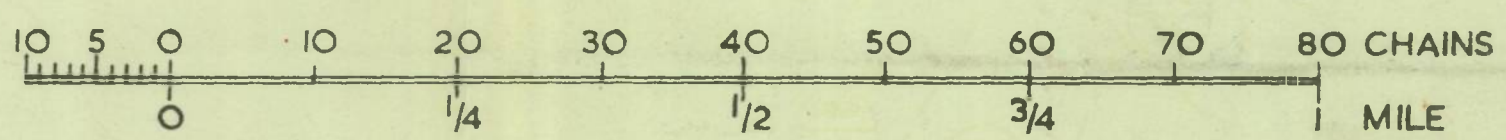
- ROADS
- Council
  - F.C. Main
  - " Tracks
  - " Feeders

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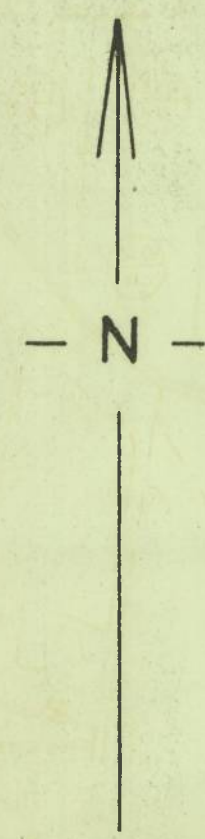
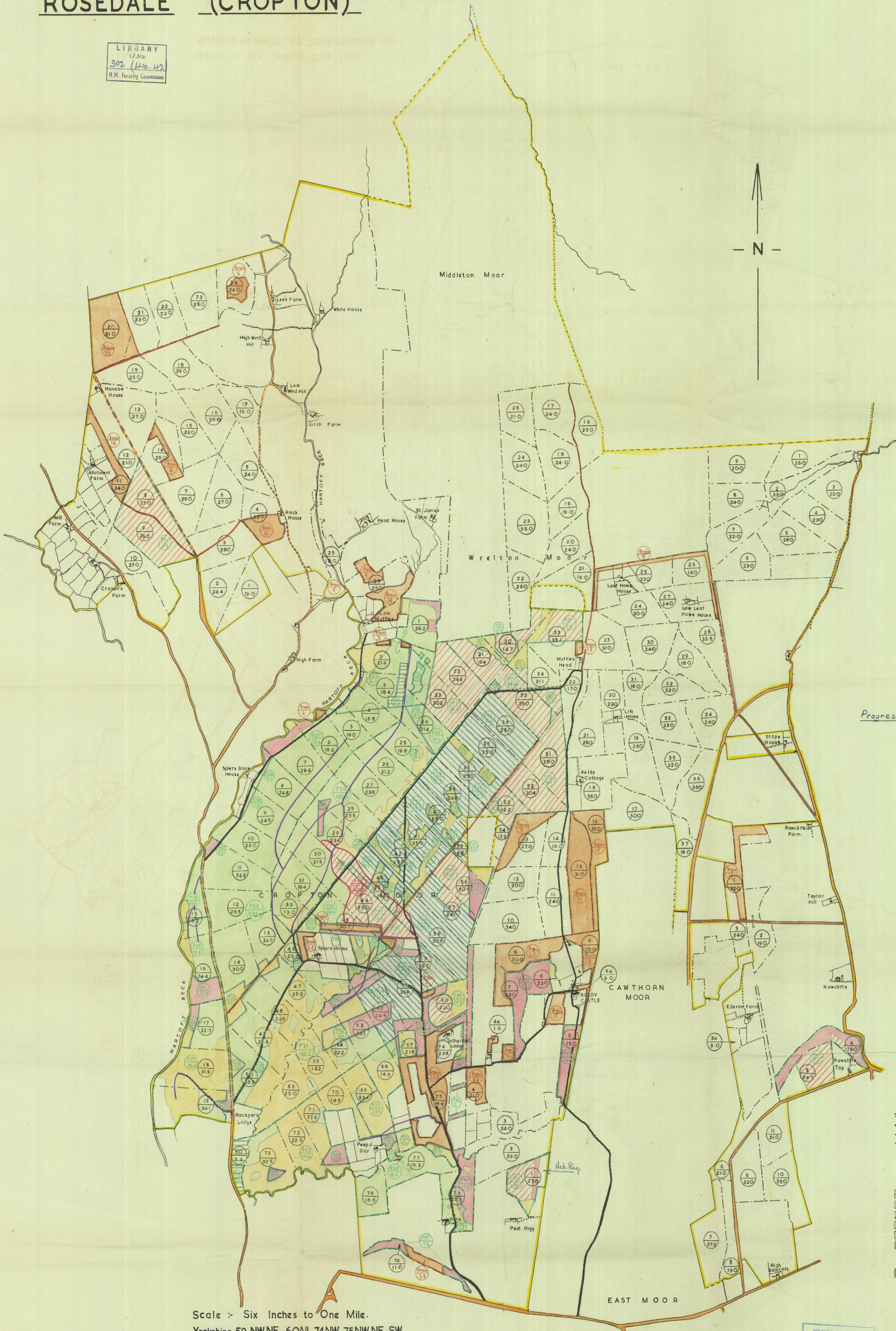
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DATE: 27/12/51  
INITIALS: [Signature]

Scale: Six Inches to One Mile  
Yorks. 60 N.E., S.W., S.E., 75 N.W., N.E.



# ROSEDALE (CROPTON)

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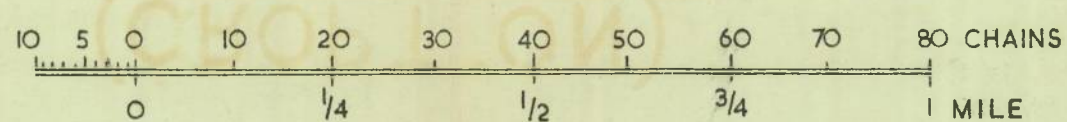


### Progress of Planting by F.C.

P. Year	Acres
28	284.0
29	153.8
30	158.1
31	168.1
32	105.0
33	98.8
34	63.8
35	41.2
36	42.8
37	35.8
38	44.9
39	55.2
40	40.6
41	43.0
42	50.0
43	40.6
44	45.0
45	8.2
46	50.9 - 1541.8
47	60.4
48	5.0
49	56.9
50	93.3
51	131 - 346.6
<b>Total</b>	<b>1888 acres</b>

- ROADS**
- Council Rd
  - F.C. Main
  - Tracks
  - Feeders
- Method of Cultivation**
- Ploughed - R.L.R.
  - " - Oxider + Subsoiler
  - " - Agricultural plough
  - Hand Prep. - Notched
  - " - On Turfs
  - " - Semi-Pit
  - Acquired Plantations

Scale :- Six Inches to One Mile.  
 Yorkshire 59 NWNE, 60AI, 74NW, 75NWNE, SW.



ROSEDALE (CROPTON)

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 INITIALS: M.H.

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