and arrangements were made to import ten pairs weekly from England. The main problem of obtaining a constant supply of Sirex eggs for parasitising was solved by taking at intervals Sirex larvae from forest trees killed the previous year and breeding them out in an incubator. A technique was developed whereby the symbiotic fungus was carried through from the larval to the adult stage. Sirex were found to be facultatively parthenogenetic. Semi-dry Pinus radiata was exposed in turn to oviposition by the Sirex incubated from the larval stage, and then to the imported Italia for parasitising of the eggs. The first New Zealand generation of Italia emerged in 16 months; that is, two summers instead of three years as in England. It is considered possible to raise from this stock of Italia sufficient progeny in phase with Sirex to enable liberations to be made. In insectary operations many Sirex were found to be killed by a parasitic fungus, Beauveria sp.

NEW ZEALAND INSTITUTE OF FORESTERS
INCORPORATED
OFFICERS 1952-54

President: G. H. Hocking
Vice-President: F. E. Hutchinson
Secretary: J. F. Lysaght
Treasurer: A. C. Forbes.
Council: E. A. Cooney, D. Kennedy, A. D. McKinnon, A. P. Thomson

Annual General Meeting

The 1952 meeting was held at Dusky Forest Headquarters, Southland, from 10th to 12th May with an attendance of 28 members. In formal business the principal matters dealt with were:

Terminology Committee—It was decided that on receipt of the Empire Forestry Association Glossary the finalising committee should arrange to complete and publish the supplementary New Zealand Glossary.

Forest Research Advisory Committee—It was resolved to ask the Director of Forestry if the Institute could assist in hastening the Committee’s formation.

Standing Committee on Soil and Water Conservation—As it had been impossible to act on the resolution passed at the 1951 Annual Meeting it was resolved that Mr. P. W. Foster should be asked to report to the Institute on (i) the present status of forestry in relation to soil and water conservation in New Zealand, (ii) what improvements in current practice are considered essential, and (iii) what the Institute could do to assist in bringing about these improvements.

Honorary Members—Dr. C. Syrach Larsen of Denmark and Mr. Owen Jones were elected as Honorary Members.

Trade name for Pinus radiata—A letter from the Director of Forestry asking for the Institute’s views on a suitable trade name for Pinus radiata was considered.
In a lengthy discussion the rival claims of *Pinus radiata*, Radiata, Radiata pine, Insignis pine and Monterey pine were all put forward. It was resolved to put the question to all members by way of a postal referendum.

[The results of the referendum were:]
- For “Radiata” 23
- For “Insignis pine” 22
- For “Monterey pine” 18
- For “Pinus radiata” 14
- For “Radiata pine” 14

**Marketing of Beech Species**—It was pointed out that some current undesirable practices were having an adverse effect on the chances of successful beech management. It was decided that the attention of the Director of Forestry should be drawn to the urgent need for:
- (a) Enforcing the sale of beech species under approved trade names.
- (b) Introducing a branding system to identify different species.
- (c) Adopting standard grading rules.

**Presentation of papers**—It had been decided to hold a symposium of short papers on a connected subject instead of hearing a few longer and more formal dissertations. The subject that had been chosen was “Means of increasing the productivity of exotic forests”. There was a gratifying response to this innovation and papers of varying length were presented which are reported elsewhere in this Journal. The consideration of all but one of these at an afternoon session was found to be too ambitious a programme as insufficient time was available for discussion. It was clear however that with some curtailment in numbers of papers this form of meeting could well be repeated with a rather more restricted subject.

**1953 Annual Meeting**—It was decided that the next Annual General Meeting should be held at Rotorua in the first week-end of May. “*Pinus radiata*” was selected as the subject of a symposium.

**Field Excursions**—On the Sunday following the formal business of the annual meeting a tour was made of the more interesting stands in Dusky State Forest.

The first stop was made at Compartment 17 which contains the youngest *Pinus radiata* in the forest—1926 planting. This stand has been thinned to 220 stems per acre and high-pruned (180 stems) in 1946. Top height is about 90 feet. A second thinning is due shortly and a third will be carried out before final felling at 50 years when diameters should range form 24 to 32 inches. No windthrow was noticed although some breakage has occurred. The party then passed on to Compartment 3 where a 44-year-old stand of *Pinus laricio* was seen. The high initial stocking resulting from 4 x 4 feet planting has produced trees of good form and light branching, and thinnings at 27 years and 40 years have enabled the coarser Austrian types to be eliminated. The second thinning in 1948 yielded 1,500 cubic feet per acre and left some 300 stems which are now 65-70 feet high. Also seen in Compartment 3 was an area containing a heterogeneous mixture of Austrian and Corsican pines, ponderosa pine, *Pinus sylvestris* and oaks and other hardwoods dating from about 1907. Two rows of ponderosa pine were apparently outstanding for this species in this locality and in comparison with poor quality ponderosa pine in other parts of the compartment were an excellent example of the importance of provenance. The main stand contains much rubbish but is in a “looked” condition owing to the high original stocking. It was suggested by several members that poisoning might be an effective and economical means of carrying out the necessary thinning. An adjacent area had been planted in 1908 with *Betula alba* which was felled and replanted in 1950 with Douglas fir—an example of conversion of the old stands to greater productivity. The silver birch was sold as firewood as no demand existed for turnery purposes.

Dropping down to the Pohohaka River, members spent a pleasant half hour in Old Dusky which contains the oldest plantings in the forest left unharmed by
n early fire which destroyed a large part of the area then established. Planted at the turn of the century Douglas fir have now reached 120 feet in height with diameters ranging from 24-30 inches and as a result of several thinnings the remaining trees in the stand are of excellent form. Larch planted at the same time are 90 feet high, but many are sabre-buttoed owing to the best being "creamed" for telegraph poles during the war. An adjoining area originally carried Pinus pineaster which was removed in 1935 and the area burnt. A dense thicket of mixed species has sprung up in the area, among them larch, Douglas fir, Cupressus macrocarpa, Corsican pine, oak, ash, sycamore and some Sorbus. The area was considered to be valuable for studying the relative tolerance and colonising ability of the various species. Also seen in Old Dusky was a stand of Populus serotina planted at 6 x 6 feet in 1904. At the second thinning in 1942 the remaining poplars were underplanted with Douglas fir. There was much discussion on the problem of removing the poplars without damaging the Douglas fir or alternatively that of allowing them to grow on to the detriment of the understorey.

After lunch at Dusky Forest cookhouse a well treated stand of Pinus laricio in Compartment 12 was inspected. Planted in 1920 it had been thinned in 1940-42 to 600 stems per acre of which 280 had been high pruned. A second thinning in which 1000 cubic feet were removed took place in 1949, leaving some 230 stems of well-formed and good type Corsican pine averaging 60-70 feet in height with an average diameter of 10 inches. There will be further thinnings as the minimum rotation for Pinus laricio in this forest was given as 70 years, the intention being to defer clear-felling until the stands of Pinus radiata have been worked over.

A current thinning operation was then visited in a 28 year-old Douglas fir stand originally planted at 6 x 6 feet spacing and now being reduced to 270 stems per acre. The yield included pitprops, saw-timber and rails; the returns balanced the cost of thinning.

A break from the "standard" species was provided by a sub-compartment of Pinus banksiana (1919), with a top height of 35 feet and an average d.b.h. of about 7 inches. In spite of a thinning and pruning in 1947 the stand did not appear attractive; even so, no member could recall seeing a better one in New Zealand. The final compartment seen at Dusky contained Pinus radiata 34 years old, thinned in 1937 and 1951 and now carrying 8000 cubic feet per acre on 170-180 stems. It is intended to thin once more to 100 stems per acre and leave the final crop until it reaches the age of 50 years. Trees thinned in the 1951 operation of 14-17 inches diameter had an average of 2 inches of clean timber on the bottom 8 feet as a result of low pruning in 1934. It was a possible indication of future markets for high quality timber that such bottom logs had been sold for peelers at approximately twice the price of saw-logs of similar size.

The second field day began with a tour of Conical Hills State Forest. The first inspection was of a mixture of larch and Pinus radiata planted in 1912 on an exposed site and left unthinned. As might be expected the larch has almost disappeared, but there is a good even stand of rather branchy Pinus radiata with a volume of 9000-10,000 cubic feet per acre. An unusual and on this site successful mixture of Douglas fir and Pinus laricio was next seen—planted in 1911 and thinned intermittently until 1949 to 700 stems per acre, and now a good stand of well formed trees in which neither species has taken charge.

One of the few old and treated stands in New Zealand of Thuya plicata aroused the interest of several visitors who are now establishing stands of this species. It was planted in 1911 at 4 x 4 feet spacing and reduced by a light thinning in 1939 to its present stocking of 900 stems per acre. It is unfortunate that the overdue second thinning has had to be delayed owing to labour shortage as many members would have liked to have seen a minor species stand of this quality given optimum treatment. Cupressus macrocarpa planted in 1911 on an inhospitable site of shallow soil overlying rock presented an unattractive picture, the trees being only 30 feet in height and 5-6 inches in diameter with sparse foliage of unhealthy colour.
The now famous stand of Sitka spruce was seen in Compartment 16f and members were able to compare the 40 year old specimens seen in the shallow welldrained basin with the 20 year old plot seen during the 1951 Institute tour of Karioi Forest, where unseasonable frosts had kept total height growth down to 30 inches. The best of the Conical Hills trees had heights of well over 100 feet and diameters up to 28 inches but members would have been more impressed had there been more than a few square chains of that quality out of the sub-compartment area of 13 acres. After lunch at Tapanui the party visited the new Conical Hills saw-mill where Pinus radiata and Pinus ponderosa from Pukenau Forest were being sawn. The layout is similar to that of Waipa Mill. Ponderosa pine thinnings being milled were seen to yield only fair timber with a large number of green knots. The next visit was to the compartment in Pukenau Forest where this timber was being logged—a 1916 stand of 6 x 6 feet spacing which the thinning was reducing to 270 stems per acre. Some fears were felt that this might be too severe a thinning for a rather exposed site but the "heavy thinning" school considered the risk justified. An adjacent area of 1916 Pinus radiata clear felling started in August 1950 to provide the main input to the Conical Hills mill. North Island members were interested to hear whether regeneration could be expected on pumice country standards. Plot counts showed a stocking of 2000 seedlings one year after felling which mortality had reduced to 1200 per acre by May 1952. It seemed that 60 per cent of the area would be satisfactorily stocked and that planting would be necessary over the remainder. The final inspection was of the current fellings on rolling country which presented no difficulty to extraction with tractors and logging arches. The average yield to a 6 inch top for the compartment lay between 9,000-10,000 cubic feet per acre.

The variety of species and the comparatively intensive tending and utilisation practice in the Tapanui District were a refreshing change to members from the more silviculturally backward parts of the Dominion.

Rotorua Section

The Rotorua Section of the Institute had another active and successful year. Membership rose to 63, maintaining the annual increment of the past few years.

At the eighth Annual Meeting on 6th June, H. V. Hinds was elected Chairman, J. Ure Secretary, and F. Allsop, R. S. Macarthur and M. M. McKee to the Programme Committee.

Addresses given during the year were:

"The recent epidemic of the looper Selidosema suavis in Canterbury," by Mr. G. B. Rawlings.

"Some impressions of American forestry," by Mr. W. S. Anderson.

"The formation of heartwood in Pinus radiata," by Mr. J. M. Harris.

"The genus Eucalyptus in New Zealand," by Mr. J. E. Henry.

"The forester in private practice," by Mr. C. D. Shultz.

All meetings were well attended. Mr. Schultz had the distinction of addressing an audience of 50 members and visitors, the largest ever recorded by the local section.

By permission of the Conservator of Forests, Rotorua, a field day was held in the Wairapukao area of Kaingarog Forest which was attended by some 30 members. Spacing trials (1940) in Pinus radiata, results of 1948 drill sowing of P. radiata and provenance trials (1929) of Pinus ponderosa were the chief subjects of inspection and discussion.

PUBLICATIONS RECEIVED

Receipt of the following publications during 1952 is acknowledged by the New Zealand Institute of Foresters.

Institute members are reminded that forestry literature received by the Institute and listed in the Journal annually is available on application to Mr. G. O. Weston, Forest Research Institute, Private Bag, Whakarewarewa, Rotorua.

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