president of Wm. Milne & Sons Ltd., Temagami; D. R. Wright, son of C. C. Wright, superintendent of industrial relations, woodlands, Spruce Falls Power & Paper Co. Ltd., Kapuskasing; W. D. Addison, son of Peter Addison, Richmond Hill, regional forester, Southern Region, Dept. of Lands & Forests, and E. H. Start, son of W. D. Start, manager of forest research inventories and planning, the Ontario-Minnesota Pulp & Paper Co., Kenora.

Dean J. W. B. Sisam of the Faculty of Forestry, reports that in addition some 12 second-generation foresters have graduated from the faculty within the last few years.

TECHNICAL NOTE

CORRECTION FACTORS FOR HEIGHTS OF IMMATURE TREES MEASURED ON AERIAL PHOTOGRAPHS¹

*By Earle Hindley**

Height measurement of immature timber on aerial photographs has not been as carefully studied as that of mature stands. On good quality photographs, mature timber heights usually can be measured to an accuracy of ± 5 to 10 feet. Our investigations indicate that heights of immature stands cannot be measured with such constant accuracy; a variable correction factor is required.

The following corrections, to be added to photo-measured height, are derived from a comparison of average stand heights measured on ground plots and photo-measured heights at the same points.

CORRECTION FACTORS

Photo-Measured Height (Feet)	Correction Factor In Feet (+)
20	13
30	11
40	9
50	7
60	5
70	3
80	2
90	1
100	0

SE_E of correlation curve ± 6.1 feet.

Basis: 35 sample plots.

Large correction factors are required for short trees because the film is unable to record the tall, thin, spire-like crowns of very young Douglas fir and

¹ Mr. Hindley is currently employed as a party chief by Forestal Ltd., Vancouver, B.C. He has won a Netherlands Government Scholarship for study in 1960 at the International Training Center in Photogrammetry, Delft, Holland.

² A contribution of Photogrammetry News, one of a series secured by Mr. J. R. Collins, Forestal Ltd., Vancouver, B.C.

western hemlock. These species, when more than 50 feet in height, have dense and conical crowns which are more accurately recorded on the film. Hence a smaller correction factor is required. Since the accuracy of height measurements varies with the interpreter, other workers may arrive at slightly different results under similar conditions. A curvilinear relationship should be expected.

This study of height measurement was initiated as part of a project involving the site mapping of a large area of immature timber on the east side of Vancouver Island. Heights varied from 1 to 130 feet and site index at 100 years from 40-180. Throughout this project photographs were used extensively to delineate type boundaries and in some cases to identify the site index of immature timber types by use of measured height and date of stand establishment.

Photographs of good quality taken in May 1958, at 18,000 feet ASL with an Eagle IX camera and a Ross 12-inch lens were used. Ground elevation varied from 200 to 3,500 feet.

The following height classes were interpreted—0-10, 11-25, 26-50, 51-75, 76-95 and 96 feet plus. Site indices were interpreted on the basis of 30-foot classes at 100 years of age. The lack of resolution of detail made delineation of the three lower height classes very difficult. Additional field reconnaissance was required in these areas. In the taller stands where the date of stand establishment was known, accurate site mapping could be carried out on the photographs with only limited field checks.

For your convenience The Forestry Chronicle offers a free employment service. Prospective employers or applicants should write to Mr. George A. Sinclair, Ontario Department of Lands & Forests, Tweed, Ontario, who will prepare applications for publication. Applicants are requested to include their own advertisement giving the following information: University granting degree, year of graduation, years and type of experience and type of employment preferred.

EMPLOYMENT

Employment Wanted—Forestry graduate of German University, married, more than 25 years experience in all phases of forestry management from seed collecting to final cutting, 5 years' experience Canadian timber operations, desires forestry work where his experience can be used advantageously. Please refer to code F. M. S.

F. X. SCHUMACHER HONORED

An award for outstanding achievement in research contributing to the advancement of forestry was made to Francis X. Schumacher of the Duke University School of Forestry, Durham, North Carolina, at the 59th annual meeting of the Society of American Foresters held in San Francisco, on November 18.