

FORESTRY COMMISSION

BOOKLET NO. 30

**METRIC
CONVERSION TABLES
AND FACTORS
FOR FORESTRY**



LONDON

HER MAJESTY'S STATIONERY OFFICE

PRICE 10s 0d [50p] NET



THE INTERNATIONAL SYSTEM OF UNITS (SI)

Prefixes denoting decimal multiples and sub-multiples

<i>Prefix</i>	<i>Symbol</i>	<i>Multiplication factor</i>	
tera	T	10^{12}	= 1 000 000 000 000
giga	G	10^9	= 1 000 000 000
mega	M	10^6	= 1 000 000
kilo	k	10^3	= 1 000
hecto	h	10^2	= 100
deca	da	10^1	= 10
		1	= 1
deci	d	10^{-1}	= 0.1
centi	c	10^{-2}	= 0.01
milli	m	10^{-3}	= 0.001
micro	μ	10^{-6}	= 0.000 001
nano	n	10^{-9}	= 0.000 000 001
pico	p	10^{-12}	= 0.000 000 000 001
femto	f	10^{-15}	= 0.000 000 000 000 001
atto	a	10^{-18}	= 0.000 000 000 000 000 001

Multiples and sub-multiples which are recommended for common use are given in **bold** type.

Only one multiplying prefix is applied at one time to a given unit. Thus one thousandth of a millimetre is not referred to as 1 milli millimetre but as 1 micrometre. Similarly one thousand kilowatts is referred to as one megawatt, not as one kilo kilowatt.

There should be no space between the prefix and the name of the unit which it qualifies; no hyphen should be used e.g. mm (millimetre). Similarly there should be no space between symbols for the prefix and the unit kg (kilogramme).

The following conventions are recommended:—

Decimal Marker. Where possible the decimal point should be level with the middle of the figure, e.g. 9.9. In typewritten and other machine work the use of a stop on the line is an acceptable alternative, e.g. 9.9. In figures whose value is less than 1, the decimal point should be preceded by a zero 0.01, not set as .01.

Thousand Marker. As the comma is in general use in most metric countries for the decimal marker, its use as a thousand marker is best avoided. Figures should be separated into groups of three by a space; 1 000 not 1000, 1 000 000 not 1,000,000. Where money is concerned the use of the comma is favoured because a space provides an opportunity for fraudulent insertion of extra figures.

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Forestry Commission

LONDON

HER MAJESTY'S STATIONERY OFFICE

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INTRODUCTION

The first booklet of this character, *Conversion Tables for Forest Research Workers* (F.C. Booklet No. 5, H.M.S.O. 1960), was produced primarily as an aid to research workers. As the new title implies this new booklet is intended to be of use to all foresters.

In response to requests from various sectors additional tables have been added, whilst other tables, which have proved to be of limited usage, have been omitted. Numerous conversion factors have been included to enable conversions to be made for less frequently used units.

The International System of Units (SI) (*See also inside front cover*)

The decimal system of units, commonly called the metric system, evolved in Europe over a period of many years. In 1954 the Conférence Générale des Poids et Mesures (CGPM), in which the United Kingdom participates, adopted a rationalised and coherent system of units. This system was later given the full title 'Système International d'Unités', for which the abbreviation is 'SI' in all languages.

There are six 'base-units' namely metre, kilogramme, second, ampere, kelvin and candela as the units for length, mass, time, electric current, temperature, and luminous intensity. Units such as square metre, cubic metre, metre per second are termed "derived" units and are formed from the base units. Certain derived units have special names, e.g. joule, newton, volt.

Decimal multiples and sub-multiples of the base units are formed by means of the prefixes listed on the front inside cover, e.g. meganewton, millimetre. The use of prefixes representing 10 raised to a power which is a multiple of ± 3 is especially recommended, but other decimal multiples and sub-multiples are acceptable under certain circumstances. Thus the millimetre, which is one thousandth of a metre or 10^{-3} metres, is a recommended sub-multiple, whereas the centimetre, which is 10^{-2} metres, is not. The use of the centimetre has, however, been adopted for the measurement of tree diameter because either millimetres or metres would involve the use of unnecessary digits.

Certain units, although not in accordance with SI, will continue to be used since they already have widespread recognition e.g. hour, minute, kilometre per hour, degree Celsius (centigrade).

How to Use the Tables

Conversions for the common units are given in tabular form, whilst for the less frequently used ones only a factor is given. The unit to be converted should be looked up in the alphabetical index which gives the conversion factor, and if present, the page on which a table may be found. Within most of the tables the values of the units to be converted run from 1 to 9 or from 1 to 99 and the interval is 1. By adjustment of the decimal place, values outside those given may be obtained e.g. 1.5 yards should be regarded as 15×0.1 ; 15 yards converts to 13.72 metres, hence 1.5 yards equal 1.372 metres. If greater precision is required than that provided by the tables, the value to be converted should be multiplied by the appropriate factor. In the case of Table 15, Rings per inch to mean ring width in millimetres, the conversion factor 25.4 is divided by the value to be converted, e.g. 10 rings per inch equals 2.54 millimetres mean ring width.

In general, factors have not been given for conversions between two compound units which have one unit in common, e.g. pints per hour to litres per hour. To make this conversion the number of pints per hour is multiplied by the conversion factor for pints to litres, e.g. 9 pints per hour = 9×0.568 261 or 5.114 35 litres per hour.

Symbols and Abbreviations

The proper symbols and abbreviations are given for each unit in the alphabetical index, and they are repeated within the tables.

It is generally recommended that during the change-over to metric units litre and tonne be written in full, and that the symbols l and t are not used. This recommendation has been followed throughout this Booklet.

Acknowledgements

The compilation of this booklet has been undertaken by Mr. J. E. Everard of the Commission's Research Division. Thanks are due to other Commission staff who have assisted, particularly Mr. I. H. Blackmore, Mr. J. B. H. Gardiner, Mr. G. M. Locke and members of the Measurement and Statistics Sections at Alice Holt.

Miss Blanche Benzian, of the Rothamsted Research Institute, Harpenden, Hertfordshire, has kindly helped with the tables of fertiliser analyses. Mr. G. Sleigh of Richard Johnson & Nephew (Steel) Ltd., provided the table of metric wire sizes.

The metric dimensions given in the tables of basic sizes and lengths of sawn softwood have been extracted from BS 4471: 1969 *Specification for Dimensions for Softwood*. These, together with extracts from Tables 137 and 138 of BS 350: *Conversion Factors and Tables*: part 2: 1962 *Detailed Conversion Tables* are reproduced by permission of the British Standards Institution, 2 Park Street, London, W1Y 4AA, from whom copies of the complete standards may be obtained. Considerable reference has been made to other BSI publications, and a selection of these are listed on the inside back cover.

FORESTRY COMMISSION

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25 Savile Row,
London W1X 2AY.

SECTION 1. LENGTH

Table 1. Millimetres to inches

Conversion factor: 1 mm = 0.039 370 1 in

mm	0	1	2	3	4	5	6	7	8	9
	in									
0	0.00	0.04	0.08	0.12	0.16	0.20	0.24	0.28	0.31	0.35
10	0.39	0.43	0.47	0.51	0.55	0.59	0.63	0.67	0.71	0.75
20	0.79	0.83	0.87	0.91	0.94	0.98	1.02	1.06	1.10	1.14
30	1.18	1.22	1.26	1.30	1.34	1.38	1.42	1.46	1.50	1.54
40	1.57	1.61	1.65	1.69	1.73	1.77	1.81	1.85	1.89	1.93
50	1.97	2.01	2.05	2.09	2.13	2.17	2.20	2.24	2.28	2.32
60	2.36	2.40	2.44	2.48	2.52	2.56	2.60	2.64	2.68	2.72
70	2.76	2.80	2.83	2.87	2.91	2.95	2.99	3.03	3.07	3.11
80	3.15	3.19	3.23	3.27	3.31	3.35	3.39	3.43	3.46	3.50
90	3.54	3.58	3.62	3.66	3.70	3.74	3.78	3.82	3.86	3.90
100	3.94	3.98	4.02	4.06	4.09	4.13	4.17	4.21	4.25	4.29
110	4.33	4.37	4.41	4.45	4.49	4.53	4.57	4.61	4.65	4.69
120	4.72	4.76	4.80	4.84	4.88	4.92	4.96	5.00	5.04	5.08
130	5.12	5.16	5.20	5.24	5.28	5.31	5.35	5.39	5.43	5.47
140	5.51	5.55	5.59	5.63	5.67	5.71	5.75	5.79	5.83	5.87
150	5.91	5.94	5.98	6.02	6.06	6.10	6.14	6.18	6.22	6.26
160	6.30	6.34	6.38	6.42	6.46	6.50	6.54	6.57	6.61	6.65
170	6.69	6.73	6.77	6.81	6.85	6.89	6.93	6.97	7.01	7.05
180	7.09	7.13	7.17	7.20	7.24	7.28	7.32	7.36	7.40	7.44
190	7.48	7.52	7.56	7.60	7.64	7.68	7.72	7.76	7.80	7.83
200	7.87	7.91	7.95	7.99	8.03	8.07	8.11	8.15	8.19	8.23
210	8.27	8.31	8.35	8.39	8.43	8.46	8.50	8.54	8.58	8.62
220	8.66	8.70	8.74	8.78	8.82	8.86	8.90	8.94	8.98	9.02
230	9.06	9.09	9.13	9.17	9.21	9.25	9.29	9.33	9.37	9.41
240	9.45	9.49	9.53	9.57	9.61	9.65	9.69	9.72	9.76	9.80

mm	0	10	20	30	40	50	60	70	80	90
	in									
0	0.00	0.39	0.79	1.18	1.57	1.97	2.36	2.76	3.15	3.54
100	3.94	4.33	4.72	5.12	5.51	5.91	6.30	6.69	7.09	7.48
200	7.87	8.27	8.66	9.06	9.45	9.84	10.24	10.63	11.02	11.42
300	11.81	12.20	12.60	12.99	13.39	13.78	14.17	14.57	14.96	15.35
400	15.75	16.14	16.54	16.93	17.32	17.72	18.11	18.50	18.90	19.29
500	19.69	20.08	20.47	20.87	21.26	21.65	22.05	22.44	22.83	23.23
600	23.62	24.02	24.41	24.80	25.20	25.59	25.98	26.38	26.77	27.17
700	27.56	27.95	28.35	28.74	29.13	29.53	29.92	30.31	30.71	31.10
800	31.50	31.89	32.28	32.68	33.07	33.46	33.86	34.25	34.65	35.04
900	35.43	35.83	36.22	36.61	37.01	37.40	37.80	38.19	38.58	38.98

Note: Centimetres to inches. Use the figures in the tables above with the decimal point moved one place to the right, e.g. 10 cm = 3.9 in.

Table 2. Inches and decimal parts of an inch to millimetres

Conversion factor: 1 in=25.4 mm

in	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
	mm									
0.00	0.00	0.25	0.51	0.76	1.02	1.27	1.52	1.78	2.03	2.29
0.10	2.54	2.79	3.05	3.30	3.56	3.81	4.06	4.32	4.57	4.83
0.20	5.08	5.33	5.59	5.84	6.10	6.35	6.60	6.86	7.11	7.37
0.30	7.62	7.87	8.13	8.38	8.64	8.89	9.14	9.40	9.65	9.91
0.40	10.16	10.41	10.67	10.92	11.18	11.43	11.68	11.94	12.19	12.45
0.50	12.70	12.95	13.21	13.46	13.72	13.97	14.22	14.48	14.73	14.99
0.60	15.24	15.49	15.75	16.00	16.26	16.51	16.76	17.02	17.27	17.53
0.70	17.78	18.03	18.29	18.54	18.80	19.05	19.30	19.56	19.81	20.07
0.80	20.32	20.57	20.83	21.08	21.34	21.59	21.84	22.10	22.35	22.61
0.90	22.86	23.11	23.37	23.62	23.88	24.13	24.38	24.64	24.89	25.15
1.00	25.40	25.65	25.91	26.16	26.42	26.67	26.92	27.18	27.43	27.69
1.10	27.94	28.19	28.45	28.70	28.96	29.21	29.46	29.72	29.97	30.23
1.20	30.48	30.73	30.99	31.24	31.50	31.75	32.00	32.26	32.51	32.77
1.30	33.02	33.27	33.53	33.78	34.04	34.29	34.54	34.80	35.05	35.31
1.40	35.56	35.81	36.07	36.32	36.58	36.83	37.08	37.34	37.59	37.85
1.50	38.10	38.35	38.61	38.86	39.12	39.37	39.62	39.88	40.13	40.39
1.60	40.64	40.89	41.15	41.40	41.66	41.91	42.16	42.42	42.67	42.93
1.70	43.18	43.43	43.69	43.94	44.20	44.45	44.70	44.96	45.21	45.47
1.80	45.72	45.97	46.23	46.48	46.74	46.99	47.24	47.50	47.75	48.01
1.90	48.26	48.51	48.77	49.02	49.28	49.53	49.78	50.04	50.29	50.55
2.00	50.80	51.05	51.31	51.56	51.82	52.07	52.32	52.58	52.83	53.09
2.10	53.34	53.59	53.85	54.10	54.36	54.61	54.86	55.12	55.37	55.63
2.20	55.88	56.13	56.39	56.64	56.90	57.15	57.40	57.66	57.91	58.17
2.30	58.42	58.67	58.93	59.18	59.44	59.69	59.94	60.20	60.45	60.71
2.40	60.96	61.21	61.47	61.72	61.98	62.23	62.48	62.74	62.99	63.25

in	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
	mm									
0.0	0.00	2.54	5.08	7.62	10.16	12.70	15.24	17.78	20.32	22.86
1.0	25.40	27.94	30.48	33.02	35.56	38.10	40.64	43.18	45.72	48.26
2.0	50.80	53.34	55.88	58.42	60.96	63.50	66.04	68.58	71.12	73.66
3.0	76.20	78.74	81.28	83.82	86.36	88.90	91.44	93.98	96.52	99.06
4.0	101.60	104.14	106.68	109.22	111.76	114.30	116.84	119.38	121.92	124.46
5.0	127.00	129.54	132.08	134.62	137.16	139.70	142.24	144.78	147.32	149.86
6.0	152.40	154.94	157.48	160.02	162.56	165.10	167.64	170.18	172.72	175.26
7.0	177.80	180.34	182.88	185.42	187.96	190.50	193.04	195.58	198.12	200.66
8.0	203.20	205.74	208.28	210.82	213.36	215.90	218.44	220.98	223.52	226.06
9.0	228.60	231.14	233.68	236.22	238.76	241.30	243.84	246.38	248.92	251.46

Table 3. Inches and fractions of an inch to millimetres

Conversion factor: 1 in = 25.4 mm

in	0	1	2	3	4	5	6	7	8	9	10	11
	mm											
0	0	25	51	76	102	127	152	178	203	229	254	279
$\frac{1}{32}$	1	26	52	77	102	128	153	179	204	229	255	280
$\frac{1}{16}$	2	27	52	78	103	129	154	179	205	230	256	281
$\frac{3}{32}$	2	28	53	79	104	129	155	180	206	231	256	282
$\frac{1}{8}$	3	29	54	79	105	130	156	181	206	232	257	283
$\frac{5}{32}$	4	29	55	80	106	131	156	182	207	233	258	283
$\frac{3}{16}$	5	30	56	81	106	132	157	183	208	233	259	284
$\frac{7}{32}$	6	31	56	82	107	133	158	183	209	234	260	285
$\frac{1}{4}$	6	32	57	83	108	133	159	184	210	235	260	286
$\frac{9}{32}$	7	33	58	83	109	134	160	185	210	236	261	287
$\frac{5}{16}$	8	33	59	84	110	135	160	186	211	237	262	287
$\frac{11}{32}$	9	34	60	85	110	136	161	187	212	237	263	288
$\frac{3}{8}$	10	35	60	86	111	137	162	187	213	238	264	289
$\frac{13}{32}$	10	36	61	87	112	137	163	188	214	239	264	290
$\frac{7}{16}$	11	37	62	87	113	138	164	189	214	240	265	291
$\frac{15}{32}$	12	37	63	88	114	139	164	190	215	241	266	291
$\frac{1}{2}$	13	38	64	89	114	140	165	191	216	241	267	292
$\frac{17}{32}$	13	39	64	90	115	140	166	191	217	242	267	293
$\frac{9}{16}$	14	40	65	90	116	141	167	192	217	243	268	294
$\frac{19}{32}$	15	40	66	91	117	142	167	193	218	244	269	294
$\frac{5}{8}$	16	41	67	92	117	143	168	194	219	244	270	295
$\frac{21}{32}$	17	42	67	93	118	144	169	194	220	245	271	296
$\frac{11}{16}$	17	43	68	94	119	144	170	195	221	246	271	297
$\frac{23}{32}$	18	44	69	94	120	145	171	196	221	247	272	298
$\frac{3}{4}$	19	44	70	95	121	146	171	197	222	248	273	298
$\frac{25}{32}$	20	45	71	96	121	147	172	198	223	248	274	299
$\frac{13}{16}$	21	46	71	97	122	148	173	198	224	249	275	300
$\frac{27}{32}$	21	47	72	98	123	148	174	199	225	250	275	301
$\frac{7}{8}$	22	48	73	98	124	149	175	200	225	251	276	302
$\frac{29}{32}$	23	48	74	99	125	150	175	201	226	252	277	302
$\frac{15}{16}$	24	49	75	100	125	151	176	202	227	252	278	303
$\frac{31}{32}$	25	50	75	101	126	152	177	202	228	253	279	304

Note: Inches to centimetres. Use the figures in Tables 2 and 3 with the decimal point moved one place to the left, e.g. 5 in = 12.7 cm.

Table 4. Conversion of diameter in centimetres and inches quarter girth

Conversion factor: 1 cm diam = 0.309 212 in q g 1 in q g = 3.234 03 cm diam

To convert from diameter in centimetres use Cols (1) and (2)

To convert from quarter girth inches use Cols (2) and (3)

Diameter cm (1)	q g in (2)	Diameter cm (3)	Diameter cm (1)	q g in (2)	Diameter cm (3)
2.9 – 3.6	1	3.2	32.0 – 32.7	10	32.3
3.7 – 4.4	1½	4.0	32.8 – 33.5	10½	33.2
4.5 – 5.2	1½	4.9	33.6 – 34.3	10½	34.0
5.3 – 6.0	1½	5.7	34.4 – 35.1	10½	34.8
6.1 – 6.8	2	6.5	35.2 – 35.9	11	35.6
6.9 – 7.6	2½	7.3	36.0 – 36.7	11½	36.4
7.7 – 8.4	2½	8.1	36.8 – 37.5	11½	37.2
8.5 – 9.2	2½	8.9	37.6 – 38.4	11½	38.0
9.3 – 10.1	3	9.7	38.5 – 39.2	12	38.8
10.2 – 10.9	3½	10.5	39.3 – 40.0	12½	39.6
11.0 – 11.7	3½	11.3	40.1 – 40.8	12½	40.4
11.8 – 12.5	3½	12.1	40.9 – 41.6	12½	41.2
12.6 – 13.3	4	12.9	41.7 – 42.4	13	42.0
13.4 – 14.1	4½	13.7	42.5 – 43.2	13½	42.9
14.2 – 14.9	4½	14.6	43.3 – 44.0	13½	43.7
15.0 – 15.7	4½	15.4	44.1 – 44.8	13½	44.5
15.8 – 16.5	5	16.2	44.9 – 45.6	14	45.3
16.6 – 17.3	5½	17.0	45.7 – 46.4	14½	46.1
17.4 – 18.1	5½	17.8	46.5 – 47.2	14½	46.9
18.2 – 18.9	5½	18.6	47.3 – 48.1	14½	47.7
19.0 – 19.8	6	19.4	48.2 – 48.9	15	48.5
19.9 – 20.6	6½	20.2	49.0 – 49.7	15½	49.3
20.7 – 21.4	6½	21.0	49.8 – 50.5	15½	50.1
21.5 – 22.2	6½	21.8	50.6 – 51.3	15½	50.9
22.3 – 23.0	7	22.6	51.4 – 52.1	16	51.7
23.1 – 23.8	7½	23.4	52.2 – 52.9	16½	52.6
23.9 – 24.6	7½	24.3	53.0 – 53.7	16½	53.4
24.7 – 25.4	7½	25.1	53.8 – 54.5	16½	54.2
25.5 – 26.2	8	25.9	54.6 – 55.3	17	55.0
26.3 – 27.0	8½	26.7	55.4 – 56.1	17½	55.8
27.1 – 27.8	8½	27.5	56.2 – 57.0	17½	56.6
27.9 – 28.7	8½	28.3	57.1 – 57.8	17½	57.4
28.8 – 29.5	9	29.1	57.9 – 58.6	18	58.2
29.6 – 30.3	9½	29.9	58.7 – 59.4	18½	59.0
30.4 – 31.1	9½	30.7	59.5 – 60.2	18½	59.8
31.2 – 31.9	9½	31.5	60.3 – 61.0	18½	60.6

Table 5. Centimetres diameter to inches girth

Conversion factor: 1 cm diam = 1.236 85 in girth

cm diam	0	1	2	3	4	5	6	7	8	9
	in girth									
0	0.0	1.2	2.5	3.7	4.9	6.2	7.4	8.7	9.9	11.1
10	12.4	13.6	14.8	16.1	17.3	18.6	19.8	21.0	22.3	23.5
20	24.7	26.0	27.2	28.4	29.7	30.9	32.2	33.4	34.6	35.9
30	37.1	38.3	39.6	40.8	42.1	43.3	44.5	45.8	47.0	48.2
40	49.5	50.7	51.9	53.2	54.4	55.7	56.9	58.1	59.4	60.6
50	61.8	63.1	64.3	65.6	66.8	68.0	69.3	70.5	71.7	73.0
60	74.2	75.4	76.7	77.9	79.2	80.4	81.6	82.9	84.1	85.3
70	86.6	87.8	89.1	90.3	91.5	92.8	94.0	95.2	96.5	97.7
80	98.9	100.2	101.4	102.7	103.9	105.1	106.4	107.6	108.8	110.1
90	111.3	112.6	113.8	115.0	116.3	117.5	118.7	120.0	121.2	122.4

Table 6. Inches girth to centimetres diameter

Conversion factor: 1 in girth = 0.808 507 cm diam

in girth	0	1	2	3	4	5	6	7	8	9
	cm diam									
0	0.00	0.81	1.62	2.43	3.23	4.04	4.85	5.66	6.47	7.28
10	8.09	8.89	9.70	10.51	11.32	12.13	12.94	13.74	14.55	15.36
20	16.17	16.98	17.79	18.60	19.40	20.21	21.02	21.83	22.64	23.45
30	24.26	25.06	25.87	26.68	27.49	28.30	29.11	29.91	30.72	31.53
40	32.34	33.15	33.96	34.77	35.57	36.38	37.19	38.00	38.81	39.62
50	40.43	41.23	42.04	42.85	43.66	44.47	45.28	46.08	46.89	47.70
60	48.51	49.32	50.13	50.94	51.74	52.55	53.36	54.17	54.98	55.79
70	56.60	57.40	58.21	59.02	59.83	60.64	61.45	62.26	63.06	63.87
80	64.68	65.49	66.30	67.11	67.91	68.72	69.53	70.34	71.15	71.96
90	72.77	73.57	74.38	75.19	76.00	76.81	77.62	78.43	79.23	80.04

Table 7. Metres to feet

Conversion factor: 1 m = 3.280 84 ft

m	0	1	2	3	4	5	6	7	8	9
	ft									
0	0.00	3.28	6.56	9.84	13.12	16.40	19.69	22.97	26.25	29.53
10	32.81	36.09	39.37	42.65	45.93	49.21	52.49	55.77	59.06	62.34
20	65.62	68.90	72.18	75.46	78.74	82.02	85.30	88.58	91.86	95.14
30	98.43	101.71	104.99	108.27	111.55	114.83	118.11	121.39	124.67	127.95
40	131.23	134.51	137.80	141.08	144.36	147.64	150.92	154.20	157.48	160.76
50	164.04	167.32	170.60	173.88	177.17	180.45	183.73	187.01	190.29	193.57
60	196.85	200.13	203.41	206.69	209.97	213.25	216.54	219.82	223.10	226.38
70	229.66	232.94	236.22	239.50	242.78	246.06	249.34	252.62	255.91	259.19
80	262.47	265.75	269.03	272.31	275.59	278.87	282.15	285.43	288.71	291.99
90	295.28	298.56	301.84	305.12	308.40	311.68	314.96	318.24	321.52	324.80

Table 8. Feet and inches to metres

Conversion factor: 1 ft = 0.304 8 m

ft	in	0	1	2	3	4	5	6	7	8	9	10	11
		m											
0		0.000	0.025	0.051	0.076	0.102	0.127	0.152	0.178	0.203	0.229	0.254	0.279
1		0.305	0.330	0.356	0.381	0.406	0.432	0.457	0.483	0.508	0.533	0.559	0.584
2		0.610	0.635	0.660	0.686	0.711	0.737	0.762	0.787	0.813	0.838	0.864	0.889
3		0.914	0.940	0.965	0.991	1.016	1.041	1.067	1.092	1.118	1.143	1.168	1.194
4		1.219	1.245	1.270	1.295	1.321	1.346	1.372	1.397	1.422	1.448	1.473	1.499
5		1.524	1.549	1.575	1.600	1.626	1.651	1.676	1.702	1.727	1.753	1.778	1.803
6		1.829	1.854	1.880	1.905	1.930	1.956	1.981	2.007	2.032	2.057	2.083	2.108
7		2.134	2.159	2.184	2.210	2.235	2.261	2.286	2.311	2.337	2.362	2.388	2.413
8		2.438	2.464	2.489	2.515	2.540	2.565	2.591	2.616	2.642	2.667	2.692	2.718
9		2.743	2.769	2.794	2.819	2.845	2.870	2.896	2.921	2.946	2.972	2.997	3.023
10		3.048	3.073	3.099	3.124	3.150	3.175	3.200	3.226	3.251	3.277	3.302	3.327
11		3.353	3.378	3.404	3.429	3.454	3.480	3.505	3.531	3.556	3.581	3.607	3.632
12		3.658	3.683	3.708	3.734	3.759	3.785	3.810	3.835	3.861	3.886	3.912	3.937
13		3.962	3.988	4.013	4.039	4.064	4.089	4.115	4.140	4.166	4.191	4.216	4.242
14		4.267	4.293	4.318	4.343	4.369	4.394	4.420	4.445	4.470	4.496	4.521	4.547

Table 8. Feet and inches to metres (cont.)

Conversion factor: 1 ft = 0.304 8 m

ft	in											
	0	1	2	3	4	5	6	7	8	9	10	11
	m											
15	4.572	4.597	4.623	4.648	4.674	4.699	4.724	4.750	4.775	4.801	4.826	4.851
16	4.877	4.902	4.928	4.953	4.978	5.004	5.029	5.055	5.080	5.105	5.131	5.156
17	5.182	5.207	5.232	5.258	5.283	5.309	5.334	5.359	5.385	5.410	5.436	5.461
18	5.486	5.512	5.537	5.563	5.588	5.613	5.639	5.664	5.690	5.715	5.740	5.766
19	5.791	5.817	5.842	5.867	5.893	5.918	5.944	5.969	5.994	6.020	6.045	6.071
20	6.096	6.121	6.147	6.172	6.198	6.223	6.248	6.274	6.299	6.325	6.350	6.375
21	6.401	6.426	6.452	6.477	6.502	6.528	6.553	6.579	6.604	6.629	6.655	6.680
22	6.706	6.731	6.756	6.782	6.807	6.833	6.858	6.883	6.909	6.934	6.960	6.985
23	7.010	7.036	7.061	7.087	7.112	7.137	7.163	7.188	7.214	7.239	7.264	7.290
24	7.315	7.341	7.366	7.391	7.417	7.442	7.468	7.493	7.518	7.544	7.569	7.595
25	7.620	7.645	7.671	7.696	7.722	7.747	7.772	7.798	7.823	7.849	7.874	7.899
26	7.925	7.950	7.976	8.001	8.026	8.052	8.077	8.103	8.128	8.153	8.179	8.204
27	8.230	8.255	8.280	8.306	8.331	8.357	8.382	8.407	8.433	8.458	8.484	8.509
28	8.534	8.560	8.585	8.611	8.636	8.661	8.687	8.712	8.738	8.763	8.788	8.814
29	8.839	8.865	8.890	8.915	8.941	8.966	8.992	9.017	9.042	9.068	9.093	9.119
30	9.144	9.169	9.195	9.220	9.246	9.271	9.296	9.322	9.347	9.373	9.398	9.423
31	9.449	9.474	9.500	9.525	9.550	9.576	9.601	9.627	9.652	9.677	9.703	9.728
32	9.754	9.779	9.804	9.830	9.855	9.881	9.906	9.931	9.957	9.982	10.008	10.033
33	10.058	10.084	10.109	10.135	10.160	10.185	10.211	10.236	10.262	10.287	10.312	10.338
34	10.363	10.389	10.414	10.439	10.465	10.490	10.516	10.541	10.566	10.592	10.617	10.643
35	10.668	10.693	10.719	10.744	10.770	10.795	10.820	10.846	10.871	10.897	10.922	10.947
36	10.973	10.998	11.024	11.049	11.074	11.100	11.125	11.151	11.176	11.201	11.227	11.252
37	11.278	11.303	11.328	11.354	11.379	11.405	11.430	11.455	11.481	11.506	11.532	11.557
38	11.582	11.608	11.633	11.659	11.684	11.709	11.735	11.760	11.786	11.811	11.836	11.862
39	11.887	11.913	11.938	11.963	11.989	12.014	12.040	12.065	12.090	12.116	12.141	12.167
40	12.192	12.217	12.243	12.268	12.294	12.319	12.344	12.370	12.395	12.421	12.446	12.471
41	12.497	12.522	12.548	12.573	12.598	12.624	12.649	12.675	12.700	12.725	12.751	12.776
42	12.802	12.827	12.852	12.878	12.903	12.929	12.954	12.979	13.005	13.030	13.056	13.081
43	13.106	13.132	13.157	13.183	13.208	13.233	13.259	13.284	13.310	13.335	13.360	13.386
44	13.411	13.437	13.462	13.487	13.513	13.538	13.564	13.589	13.614	13.640	13.665	13.691
45	13.716	13.741	13.767	13.792	13.818	13.843	13.868	13.894	13.919	13.945	13.970	13.995
46	14.021	14.046	14.072	14.097	14.122	14.148	14.173	14.199	14.224	14.249	14.275	14.300
47	14.326	14.351	14.376	14.402	14.427	14.453	14.478	14.503	14.529	14.554	14.580	14.605
48	14.630	14.656	14.681	14.707	14.732	14.757	14.783	14.808	14.834	14.859	14.884	14.910
49	14.935	14.961	14.986	15.011	15.037	15.062	15.088	15.113	15.138	15.164	15.189	15.215

Table 9. Metres to yards

Conversion factor: 1 m = 1.093 61 yd

m	0	1	2	3	4	5	6	7	8	9
	yd									
0	0.00	1.09	2.19	3.28	4.37	5.47	6.56	7.66	8.75	9.84
10	10.94	12.03	13.12	14.22	15.31	16.40	17.50	18.59	19.69	20.78
20	21.87	22.97	24.06	25.15	26.25	27.34	28.43	29.53	30.62	31.71
30	32.81	33.90	35.00	36.09	37.18	38.28	39.37	40.46	41.56	42.65
40	43.74	44.84	45.93	47.03	48.12	49.21	50.31	51.40	52.49	53.59
50	54.68	55.77	56.87	57.96	59.06	60.15	61.24	62.34	63.43	64.52
60	65.62	66.71	67.80	68.90	69.99	71.08	72.18	73.27	74.37	75.46
70	76.55	77.65	78.74	79.83	80.93	82.02	83.11	84.21	85.30	86.40
80	87.49	88.58	89.68	90.77	91.86	92.96	94.05	95.14	96.24	97.33
90	98.43	99.52	100.61	101.71	102.80	103.89	104.99	106.08	107.17	108.27

Table 10. Yards to metres

Conversion factor: 1 yd = 0.914 4 m

yd	0	1	2	3	4	5	6	7	8	9
	m									
0	0.00	0.91	1.83	2.74	3.66	4.57	5.49	6.40	7.32	8.23
10	9.14	10.06	10.97	11.89	12.80	13.72	14.63	15.54	16.46	17.37
20	18.29	19.20	20.12	21.03	21.95	22.86	23.77	24.69	25.60	26.52
30	27.43	28.35	29.26	30.18	31.09	32.00	32.92	33.83	34.75	35.66
40	36.58	37.49	38.40	39.32	40.23	41.15	42.06	42.98	43.89	44.81
50	45.72	46.63	47.55	48.46	49.38	50.29	51.21	52.12	53.04	53.95
60	54.86	55.78	56.69	57.61	58.52	59.44	60.35	61.26	62.18	63.09
70	64.01	64.92	65.84	66.75	67.67	68.58	69.49	70.41	71.32	72.24
80	73.15	74.07	74.98	75.90	76.81	77.72	78.64	79.55	80.47	81.38
90	82.30	83.21	84.12	85.04	85.95	86.87	87.78	88.70	89.61	90.53

Table 11. Metres to chains

Conversion factor: 1 m = 0.049 709 7 chain

m	0	1	2	3	4	5	6	7	8	9
	chain									
0	0.000	0.050	0.099	0.149	0.199	0.249	0.298	0.348	0.398	0.447
10	0.497	0.547	0.597	0.646	0.696	0.746	0.795	0.845	0.895	0.944
20	0.994	1.044	1.094	1.143	1.193	1.243	1.292	1.342	1.392	1.442
30	1.491	1.541	1.591	1.640	1.690	1.740	1.790	1.839	1.889	1.939
40	1.988	2.038	2.088	2.138	2.187	2.237	2.287	2.336	2.386	2.436
50	2.485	2.535	2.585	2.635	2.684	2.734	2.784	2.833	2.883	2.933
60	2.983	3.032	3.082	3.132	3.181	3.231	3.281	3.331	3.380	3.430
70	3.480	3.529	3.579	3.629	3.679	3.728	3.778	3.828	3.877	3.927
80	3.977	4.026	4.076	4.126	4.176	4.225	4.275	4.325	4.374	4.424
90	4.474	4.524	4.573	4.623	4.673	4.722	4.772	4.822	4.872	4.921

Table 12. Chains to metres

Conversion factor: 1 chain = 20.116 8 m

chain	0	1	2	3	4	5	6	7	8	9
	m									
0	0.0	20.1	40.2	60.4	80.5	100.6	120.7	140.8	160.9	181.1
10	201.2	221.3	241.4	261.5	281.6	301.8	321.9	342.0	362.1	382.2
20	402.3	422.5	442.6	462.7	482.8	502.9	523.0	543.2	563.3	583.4
30	603.5	623.6	643.7	663.9	684.0	704.1	724.2	744.3	764.4	784.6
40	804.7	824.8	844.9	865.0	885.1	905.3	925.4	945.5	965.6	985.7
50	1 005.8	1 026.0	1 046.1	1 066.2	1 086.3	1 106.4	1 126.5	1 146.7	1 166.8	1 186.9
60	1 207.0	1 227.1	1 247.2	1 267.4	1 287.5	1 307.6	1 327.7	1 347.8	1 367.9	1 388.1
70	1 408.2	1 428.3	1 448.4	1 468.5	1 488.6	1 508.8	1 528.9	1 549.0	1 569.1	1 589.2
80	1 609.3	1 629.5	1 649.6	1 669.7	1 689.8	1 709.9	1 730.0	1 750.2	1 770.3	1 790.4
90	1 810.5	1 830.6	1 850.7	1 870.9	1 891.0	1 911.1	1 931.2	1 951.3	1 971.4	1 991.6

Table 13. Kilometres to miles

Conversion factor: 1 km = 0.621 371 mile

km	0	1	2	3	4	5	6	7	8	9
	mile									
0	0.00	0.62	1.24	1.86	2.49	3.11	3.73	4.35	4.97	5.59
10	6.21	6.84	7.46	8.08	8.70	9.32	9.94	10.56	11.18	11.81
20	12.43	13.05	13.67	14.29	14.91	15.53	16.16	16.78	17.40	18.02
30	18.64	19.26	19.88	20.51	21.13	21.75	22.37	22.99	23.61	24.23
40	24.85	25.48	26.10	26.72	27.34	27.96	28.58	29.20	29.83	30.45
50	31.07	31.69	32.31	32.93	33.55	34.18	34.80	35.42	36.04	36.66
60	37.28	37.90	38.53	39.15	39.77	40.39	41.01	41.63	42.25	42.87
70	43.50	44.12	44.74	45.36	45.98	46.60	47.22	47.85	48.47	49.09
80	49.71	50.33	50.95	51.57	52.20	52.82	53.44	54.06	54.68	55.30
90	55.92	56.54	57.17	57.79	58.41	59.03	59.65	60.27	60.89	61.52

Note: Kilometres per hour to miles per hour. Use Table 13 above,
e.g. 1 km/h = 0.62 mph

Table 14. Miles to kilometres

Conversion factor: 1 mile = 1.609 34 km

mile	0	1	2	3	4	5	6	7	8	9
	km									
0	0.00	1.61	3.22	4.83	6.44	8.05	9.66	11.27	12.87	14.48
10	16.09	17.70	19.31	20.92	22.53	24.14	25.75	27.36	28.97	30.58
20	32.19	33.80	35.41	37.01	38.62	40.23	41.84	43.45	45.06	46.67
30	48.28	49.89	51.50	53.11	54.72	56.33	57.94	59.55	61.16	62.76
40	64.37	65.98	67.59	69.20	70.81	72.42	74.03	75.64	77.25	78.86
50	80.47	82.08	83.69	85.30	86.90	88.51	90.12	91.73	93.34	94.95
60	96.56	98.17	99.78	101.39	103.00	104.61	106.22	107.83	109.44	111.04
70	112.65	114.26	115.87	117.48	119.09	120.70	122.31	123.92	125.53	127.14
80	128.75	130.36	131.97	133.58	135.18	136.79	138.40	140.01	141.62	143.23
90	144.84	146.45	148.06	149.67	151.28	152.89	154.50	156.11	157.72	159.33

Note: Miles per hour to kilometres per hour. Use Table 14 above,
e.g. 1 mph = 1.61 km/h

Table 15. Conversion of mean ring width, rings per 10 mm, rings per 25 mm, rings per inch

Mean ring width mm	rings per 10 mm	rings per 25 mm	rings per in
25.40	0.39	0.98	1
12.70	0.79	1.97	2
8.47	1.18	2.95	3
6.35	1.58	3.94	4
5.08	1.97	4.92	5
4.23	2.36	5.91	6
3.63	2.76	6.89	7
3.18	3.15	7.87	8
2.82	3.54	8.86	9
2.54	3.94	9.84	10
2.31	4.33	10.83	11
2.12	4.72	11.81	12
1.95	5.12	12.80	13
1.81	5.51	13.78	14
1.69	5.91	14.76	15
1.59	6.30	15.75	16
1.49	6.69	16.73	17
1.41	7.09	17.72	18
1.34	7.48	18.70	19
1.27	7.87	19.69	20
1.21	8.27	20.67	21
1.15	8.66	21.65	22
1.10	9.06	22.64	23
1.06	9.45	23.62	24
1.02	9.84	24.61	25
0.98	10.24	25.59	26
0.94	10.63	26.57	27
0.91	11.02	27.56	28
0.88	11.42	28.54	29
0.85	11.81	29.53	30
0.82	12.20	30.51	31
0.79	12.60	31.50	32
0.77	12.99	32.48	33
0.75	13.39	33.46	34
0.73	13.78	34.45	35
0.71	14.17	35.43	36
0.69	14.57	36.42	37
0.67	14.96	37.40	38
0.65	15.35	38.39	39

Note: The method of expressing ring width, in metric units, had not been decided, at the time of publication.

Table 16. Conversion of metres per hectare, yards per acre, chains per acre, miles per square mile

m/ha	yd/acre	chain/acre	mile/mile ²
1	0.443	0.020 1	0.161
2	0.885	0.040 2	0.322
3	1.328	0.060 4	0.483
4	1.770	0.080 5	0.644
5	2.213	0.100 6	0.805
6	2.655	0.120 7	0.966
7	3.098	0.140 8	1.127
8	3.541	0.160 9	1.287
9	3.983	0.181 1	1.448
2.26	1	0.045 5	0.364
4.52	2	0.090 9	0.727
6.78	3	0.136 4	1.091
9.04	4	0.181 8	1.455
11.30	5	0.227 3	1.818
13.56	6	0.272 7	2.182
15.82	7	0.318 2	2.545
18.08	8	0.363 6	2.909
20.34	9	0.409 1	3.273
49.7	22	1	8
99.4	44	2	16
149.1	66	3	24
198.8	88	4	32
248.5	110	5	40
298.3	132	6	48
348.0	154	7	56
397.7	176	8	64
447.4	198	9	72
6.21	2.75	0.125	1
12.43	5.50	0.250	2
18.64	8.25	0.375	3
24.85	11.00	0.500	4
31.07	13.75	0.625	5
37.28	16.50	0.750	6
43.50	19.25	0.875	7
49.71	22.00	1.000	8
55.92	24.75	1.125	9

Note: Metres per hectare to kilometres per square kilometre.

Move decimal point one place to the left, e.g. 5m/ha = 0.5 km/km²;

3 mile/mile² = 18.64 m/ha = 1.864 km/km².

SECTION 2. AREA (including BASAL AREA)

Table 17. Diameter of a circle to circumference

Conversion factor: 1 unit diam = 3.141 59 units circumference

diam	0	1	2	3	4	5	6	7	8	9
	circumference									
0	0.00	3.14	6.28	9.42	12.57	15.71	18.85	21.99	25.13	28.27
10	31.42	34.56	37.70	40.84	43.98	47.12	50.27	53.41	56.55	59.69
20	62.83	65.97	69.12	72.26	75.40	78.54	81.68	84.82	87.96	91.11
30	94.25	97.39	100.53	103.67	106.81	109.96	113.10	116.24	119.38	122.52
40	125.66	128.81	131.95	135.09	138.23	141.37	144.51	147.65	150.80	153.94
50	157.08	160.22	163.36	166.50	169.65	172.79	175.93	179.07	182.21	185.35
60	188.50	191.64	194.78	197.92	201.06	204.20	207.35	210.49	213.63	216.77
70	219.91	223.05	226.19	229.34	232.48	235.62	238.76	241.90	245.04	248.19
80	251.33	254.47	257.61	260.75	263.89	267.04	270.18	273.32	276.46	279.60
90	282.74	285.88	289.03	292.17	295.31	298.45	301.59	304.73	307.88	311.02

Table 18. Diameter of a circle to area

Conversion factor: 1 unit diam = $0.785\ 398 \times \text{diam}^2$ units area

diam	0	1	2	3	4	5	6	7	8	9
	area									
0	0.0	0.8	3.1	7.1	12.6	19.6	28.3	38.5	50.3	63.6
10	78.5	95.0	113.1	132.7	153.9	176.7	201.1	227.0	254.5	283.5
20	314.2	346.4	380.1	415.5	452.4	490.9	530.9	572.6	615.8	660.5
30	706.9	754.8	804.2	855.3	907.9	962.1	1 017.9	1 075.2	1 134.1	1 194.6
40	1 256.6	1 320.3	1 385.4	1 452.2	1 520.5	1 590.4	1 661.9	1 734.9	1 809.6	1 885.7
50	1 963.5	2 042.8	2 123.7	2 206.2	2 290.2	2 375.8	2 463.0	2 551.8	2 642.1	2 734.0
60	2 827.4	2 922.5	3 019.1	3 117.2	3 217.0	3 318.3	3 421.2	3 525.7	3 631.7	3 739.3
70	3 848.5	3 959.2	4 071.5	4 185.4	4 300.8	4 417.9	4 536.5	4 656.6	4 778.4	4 901.7
80	5 026.5	5 153.0	5 281.0	5 410.6	5 541.8	5 674.5	5 808.8	5 944.7	6 082.1	6 221.1
90	6 361.7	6 503.9	6 647.6	6 792.9	6 939.8	7 088.2	7 238.2	7 389.8	7 543.0	7 697.7

Note. Any units may be used in Tables 17 and 18, e.g. 5 metres diameter = 19.6 square metres.

Table 19. Square metres to square feet

Conversion factor: $1 \text{ m}^2 = 10.7639 \text{ ft}^2$

m^2	0	1	2	3	4	5	6	7	8	9
	ft^2									
0	0.0	10.8	21.5	32.3	43.1	53.8	64.6	75.3	86.1	96.9
10	107.6	118.4	129.2	139.9	150.7	161.5	172.2	183.0	193.8	204.5
20	215.3	226.0	236.8	247.6	258.3	269.1	279.9	290.6	301.4	312.2
30	322.9	333.7	344.4	355.2	366.0	376.7	387.5	398.3	409.0	419.8
40	430.6	441.3	452.1	462.8	473.6	484.4	495.1	505.9	516.7	527.4
50	538.2	549.0	559.7	570.5	581.3	592.0	602.8	613.5	624.3	635.1
60	645.8	656.6	667.4	678.1	688.9	699.7	710.4	721.2	731.9	742.7
70	753.5	764.2	775.0	785.8	796.5	807.3	818.1	828.8	839.6	850.3
80	861.1	871.9	882.6	893.4	904.2	914.9	925.7	936.5	947.2	958.0
90	968.8	979.5	990.3	1 001.0	1 011.8	1 022.6	1 033.3	1 044.1	1 054.9	1 065.6

Table 20. Square feet to square metres

Conversion factor: $1 \text{ ft}^2 = 0.092903 \text{ m}^2$

ft^2	0	1	2	3	4	5	6	7	8	9
	m^2									
0	0.000	0.093	0.186	0.279	0.372	0.465	0.557	0.650	0.743	0.836
10	0.929	1.022	1.115	1.208	1.301	1.394	1.486	1.579	1.672	1.765
20	1.858	1.951	2.044	2.137	2.230	2.323	2.415	2.508	2.601	2.694
30	2.787	2.880	2.973	3.066	3.159	3.252	3.345	3.437	3.530	3.623
40	3.716	3.809	3.902	3.995	4.088	4.181	4.274	4.366	4.459	4.552
50	4.645	4.738	4.831	4.924	5.017	5.110	5.203	5.295	5.388	5.481
60	5.574	5.667	5.760	5.853	5.946	6.039	6.132	6.225	6.317	6.410
70	6.503	6.596	6.689	6.782	6.875	6.968	7.061	7.154	7.246	7.339
80	7.432	7.525	7.618	7.711	7.804	7.897	7.990	8.083	8.175	8.268
90	8.361	8.454	8.547	8.640	8.733	8.826	8.919	9.012	9.104	9.197

Table 21. Square metres to square feet, quarter girth

Conversion factor: $1 \text{ m}^2 = 8.453 \text{ 96 ft}^2 \text{ q g}$

m^2	0.000	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009
	$\text{ft}^2 \text{ q g}$									
0.000	0.000	0.008	0.017	0.025	0.034	0.042	0.051	0.059	0.068	0.076
0.010	0.085	0.093	0.101	0.110	0.118	0.127	0.135	0.144	0.152	0.161
0.020	0.169	0.178	0.186	0.194	0.203	0.211	0.220	0.228	0.237	0.245
0.030	0.254	0.262	0.271	0.279	0.287	0.296	0.304	0.313	0.321	0.330
0.040	0.338	0.347	0.355	0.364	0.372	0.380	0.389	0.397	0.406	0.414
0.050	0.423	0.431	0.440	0.448	0.457	0.465	0.473	0.482	0.490	0.499
0.060	0.507	0.516	0.524	0.533	0.541	0.550	0.558	0.566	0.575	0.583
0.070	0.592	0.600	0.609	0.617	0.626	0.634	0.643	0.651	0.659	0.668
0.080	0.676	0.685	0.693	0.702	0.710	0.719	0.727	0.735	0.744	0.752
0.090	0.761	0.769	0.778	0.786	0.795	0.803	0.812	0.820	0.828	0.837

Table 22. Square feet, quarter girth, to square metres

Conversion factor: $1 \text{ ft}^2 \text{ q g} = 0.118 \text{ 288 m}^2$

$\text{ft}^2 \text{ q g}$	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
	m^2									
0.00	0.000	0.001	0.002	0.004	0.005	0.006	0.007	0.008	0.009	0.011
0.10	0.012	0.013	0.014	0.015	0.017	0.018	0.019	0.020	0.021	0.022
0.20	0.024	0.025	0.026	0.027	0.028	0.030	0.031	0.032	0.033	0.034
0.30	0.035	0.037	0.038	0.039	0.040	0.041	0.043	0.044	0.045	0.046
0.40	0.047	0.048	0.050	0.051	0.052	0.053	0.054	0.056	0.057	0.058
0.50	0.059	0.060	0.062	0.063	0.064	0.065	0.066	0.067	0.069	0.070
0.60	0.071	0.072	0.073	0.075	0.076	0.077	0.078	0.079	0.080	0.082
0.70	0.083	0.084	0.085	0.086	0.088	0.089	0.090	0.091	0.092	0.093
0.80	0.095	0.096	0.097	0.098	0.099	0.101	0.102	0.103	0.104	0.105
0.90	0.106	0.108	0.109	0.110	0.111	0.112	0.114	0.115	0.116	0.117

Table 23. Square metres to square yardsConversion factor: $1 \text{ m}^2 = 1.195\ 99 \text{ yd}^2$

m^2	0	1	2	3	4	5	6	7	8	9
	yd^2									
0	0.00	1.20	2.39	3.59	4.78	5.98	7.18	8.37	9.57	10.76
10	11.96	13.16	14.35	15.55	16.74	17.94	19.14	20.33	21.53	22.72
20	23.92	25.12	26.31	27.51	28.70	29.90	31.10	32.29	33.49	34.68
30	35.88	37.08	38.27	39.47	40.66	41.86	43.06	44.25	45.45	46.64
40	47.84	49.04	50.23	51.43	52.62	53.82	55.02	56.21	57.41	58.60
50	59.80	61.00	62.19	63.39	64.58	65.78	66.98	68.17	69.37	70.56
60	71.76	72.96	74.15	75.35	76.54	77.74	78.94	80.13	81.33	82.52
70	83.72	84.92	86.11	87.31	88.50	89.70	90.90	92.09	93.29	94.48
80	95.68	96.88	98.07	99.27	100.46	101.66	102.86	104.05	105.25	106.44
90	107.64	108.84	110.03	111.23	112.42	113.62	114.82	116.01	117.21	118.40

Table 24. Square yards to square metresConversion factor: $1 \text{ yd}^2 = 0.836\ 127 \text{ m}^2$

yd^2	0	1	2	3	4	5	6	7	8	9
	m^2									
0	0.00	0.84	1.67	2.51	3.34	4.18	5.02	5.85	6.69	7.53
10	8.36	9.20	10.03	10.87	11.71	12.54	13.38	14.21	15.05	15.89
20	16.72	17.56	18.39	19.23	20.07	20.90	21.74	22.58	23.41	24.25
30	25.08	25.92	26.76	27.59	28.43	29.26	30.10	30.94	31.77	32.61
40	33.45	34.28	35.12	35.95	36.79	37.63	38.46	39.30	40.13	40.97
50	41.81	42.64	43.48	44.31	45.15	45.99	46.82	47.66	48.50	49.33
60	50.17	51.00	51.84	52.68	53.51	54.35	55.18	56.02	56.86	57.69
70	58.53	59.37	60.20	61.04	61.87	62.71	63.55	64.38	65.22	66.05
80	66.89	67.73	68.56	69.40	70.23	71.07	71.91	72.74	73.58	74.42
90	75.25	76.09	76.92	77.76	78.60	79.43	80.27	81.10	81.94	82.78

Table 25. Hectares to acres

Conversion factor: 1 ha = 2.471 05 acre

ha	0	1	2	3	4	5	6	7	8	9
	acre									
0	0.00	2.47	4.94	7.41	9.88	12.36	14.83	17.30	19.77	22.24
10	24.71	27.18	29.65	32.12	34.59	37.07	39.54	42.01	44.48	46.95
20	49.42	51.89	54.36	56.83	59.31	61.78	64.25	66.72	69.19	71.66
30	74.13	76.60	79.07	81.54	84.02	86.49	88.96	91.43	93.90	96.37
40	98.84	101.31	103.78	106.26	108.73	111.20	113.67	116.14	118.61	121.08
50	123.55	126.02	128.49	130.97	133.44	135.91	138.38	140.85	143.32	145.79
60	148.26	150.73	153.21	155.68	158.15	160.62	163.09	165.56	168.03	170.50
70	172.97	175.44	177.92	180.39	182.86	185.33	187.80	190.27	192.74	195.21
80	197.68	200.16	202.63	205.10	207.57	210.04	212.51	214.98	217.45	219.92
90	222.39	224.87	227.34	229.81	232.28	234.75	237.22	239.69	242.16	244.63

Notes: 1 hectare = 10 000 square metres.

The prefix hecto is applied to an are, which equals 100 square metres.

Stems per acre to stems per hectare.

Use Table 25 above, e.g. 10 stems per acre = 24.71 stems per hectare.

Table 26. Acres to hectares

Conversion factor: 1 acre = 0.404 686 ha

acre	0	1	2	3	4	5	6	7	8	9
	ha									
0	0.00	0.40	0.81	1.21	1.62	2.02	2.43	2.83	3.24	3.64
10	4.05	4.45	4.86	5.26	5.67	6.07	6.47	6.88	7.28	7.69
20	8.09	8.50	8.90	9.31	9.71	10.12	10.52	10.93	11.33	11.74
30	12.14	12.55	12.95	13.35	13.76	14.16	14.57	14.97	15.38	15.78
40	16.19	16.59	17.00	17.40	17.81	18.21	18.62	19.02	19.42	19.83
50	20.23	20.64	21.04	21.45	21.85	22.26	22.66	23.07	23.47	23.88
60	24.28	24.69	25.09	25.50	25.90	26.30	26.71	27.11	27.52	27.92
70	28.33	28.73	29.14	29.54	29.95	30.35	30.76	31.16	31.57	31.97
80	32.37	32.78	33.18	33.59	33.99	34.40	34.80	35.21	35.61	36.02
90	36.42	36.83	37.23	37.64	38.04	38.45	38.85	39.25	39.66	40.06

Note: Stems per hectare to stems per acre.

Use Table 26 above, e.g. 10 stems per hectare = 4.05 stems per acre.

Table 27. Square kilometres to square milesConversion factor: $1 \text{ km}^2 = 0.386 \text{ 102 mile}^2$

km^2	0	1	2	3	4	5	6	7	8	9
	mile^2									
0	0.00	0.39	0.77	1.16	1.54	1.93	2.32	2.70	3.09	3.47
10	3.86	4.25	4.63	5.02	5.41	5.79	6.18	6.56	6.95	7.34
20	7.72	8.11	8.49	8.88	9.27	9.65	10.04	10.42	10.81	11.20
30	11.58	11.97	12.36	12.74	13.13	13.51	13.90	14.29	14.67	15.06
40	15.44	15.83	16.22	16.60	16.99	17.37	17.76	18.15	18.53	18.92
50	19.31	19.69	20.08	20.46	20.85	21.24	21.62	22.01	22.39	22.78
60	23.17	23.55	23.94	24.32	24.71	25.10	25.48	25.87	26.25	26.64
70	27.03	27.41	27.80	28.19	28.57	28.96	29.34	29.73	30.12	30.50
80	30.89	31.27	31.66	32.05	32.43	32.82	33.20	33.59	33.98	34.36
90	34.75	35.14	35.52	35.91	36.29	36.68	37.07	37.45	37.84	38.22

Table 28. Square miles to square kilometresConversion factor: $1 \text{ mile}^2 = 2.589 \text{ 99 km}^2$

mile^2	0	1	2	3	4	5	6	7	8	9
	km^2									
0	0.0	2.6	5.2	7.8	10.4	12.9	15.5	18.1	20.7	23.3
10	25.9	28.5	31.1	33.7	36.3	38.8	41.4	44.0	46.6	49.2
20	51.8	54.4	57.0	59.6	62.2	64.7	67.3	69.9	72.5	75.1
30	77.7	80.3	82.9	85.5	88.1	90.6	93.2	95.8	98.4	101.0
40	103.6	106.2	108.8	111.4	114.0	116.5	119.1	121.7	124.3	126.9
50	129.5	132.1	134.7	137.3	139.9	142.4	145.0	147.6	150.2	152.8
60	155.4	158.0	160.6	163.2	165.8	168.3	170.9	173.5	176.1	178.7
70	181.3	183.9	186.5	189.1	191.7	194.2	196.8	199.4	202.0	204.6
80	207.2	209.8	212.4	215.0	217.6	220.1	222.7	225.3	227.9	230.5
90	233.1	235.7	238.3	240.9	243.5	246.0	248.6	251.2	253.8	256.4

Note: Square miles to hectares.Use figures given under km^2 in Table 28 above with decimal point moved two places to the right, e.g. $10 \text{ mile}^2 = 25.9 \text{ km}^2 = 2590 \text{ ha}$

Table 29. Square metres per hectare to square feet, quarter girth per acre

Conversion factor: $1 \text{ m}^2/\text{ha} = 3.421 \text{ 19 ft}^2 \text{ q g/acre}$

m^2/ha	0	1	2	3	4	5	6	7	8	9
	$\text{ft}^2 \text{ q g/acre}$									
0	0.0	3.4	6.8	10.3	13.7	17.1	20.5	23.9	27.4	30.8
10	34.2	37.6	41.1	44.5	47.9	51.3	54.7	58.2	61.6	65.0
20	68.4	71.8	75.3	78.7	82.1	85.5	89.0	92.4	95.8	99.2
30	102.6	106.1	109.5	112.9	116.3	119.7	123.2	126.6	130.0	133.4
40	136.8	140.3	143.7	147.1	150.5	154.0	157.4	160.8	164.2	167.6
50	171.1	174.5	177.9	181.3	184.7	188.2	191.6	195.0	198.4	201.9
60	205.3	208.7	212.1	215.5	219.0	222.4	225.8	229.2	232.6	236.1
70	239.5	242.9	246.3	249.7	253.2	256.6	260.0	263.4	266.9	270.3
80	273.7	277.1	280.5	284.0	287.4	290.8	294.2	297.6	301.1	304.5
90	307.9	311.3	314.7	318.2	321.6	325.0	328.4	331.9	335.3	338.7

Table 30. Square feet, quarter girth per acre to square metres per hectare

Conversion factor: $1 \text{ ft}^2 \text{ q g/acre} = 0.292 \text{ 296 m}^2/\text{ha}$

$\text{ft}^2 \text{ q g/acre}$	0	1	2	3	4	5	6	7	8	9
	m^2/ha									
0	0.00	0.29	0.58	0.88	1.17	1.46	1.75	2.05	2.34	2.63
10	2.92	3.22	3.51	3.80	4.09	4.38	4.68	4.97	5.26	5.55
20	5.85	6.14	6.43	6.72	7.02	7.31	7.60	7.89	8.18	8.48
30	8.77	9.06	9.35	9.65	9.94	10.23	10.52	10.81	11.11	11.40
40	11.69	11.98	12.28	12.57	12.86	13.15	13.45	13.74	14.03	14.32
50	14.61	14.91	15.20	15.49	15.78	16.08	16.37	16.66	16.95	17.25
60	17.54	17.83	18.12	18.41	18.71	19.00	19.29	19.58	19.88	20.17
70	20.46	20.75	21.05	21.34	21.63	21.92	22.21	22.51	22.80	23.09
80	23.38	23.68	23.97	24.26	24.55	24.85	25.14	25.43	25.72	26.01
90	26.31	26.60	26.89	27.18	27.48	27.77	28.06	28.35	28.64	28.94
100	29.23	29.52	29.81	30.11	30.40	30.69	30.98	31.28	31.57	31.86
110	32.15	32.44	32.74	33.03	33.32	33.61	33.91	34.20	34.49	34.78
120	35.08	35.37	35.66	35.95	36.24	36.54	36.83	37.12	37.41	37.71
130	38.00	38.29	38.58	38.88	39.17	39.46	39.75	40.04	40.34	40.63
140	40.92	41.21	41.51	41.80	42.09	42.38	42.68	42.97	43.26	43.55
150	43.84	44.14	44.43	44.72	45.01	45.31	45.60	45.89	46.18	46.47
160	46.77	47.06	47.35	47.64	47.94	48.23	48.52	48.81	49.11	49.40
170	49.69	49.98	50.27	50.57	50.86	51.15	51.44	51.74	52.03	52.32
180	52.61	52.91	53.20	53.49	53.78	54.07	54.37	54.66	54.95	55.24
190	55.54	55.83	56.12	56.41	56.71	57.00	57.29	57.58	57.87	58.17

SECTION 3. VOLUME (including TIMBER VOLUME)

Table 31. Cubic metres to cubic feet

Conversion factor: $1 \text{ m}^3 = 35.3147 \text{ ft}^3$

m^3	0	1	2	3	4	5	6	7	8	9
	ft^3									
0	0.0	35.3	70.6	105.9	141.3	176.6	211.9	247.2	282.5	317.8
10	353.1	388.5	423.8	459.1	494.4	529.7	565.0	600.3	635.7	671.0
20	706.3	741.6	776.9	812.2	847.6	882.9	918.2	953.5	988.8	1 024.1
30	1 059.4	1 094.8	1 130.1	1 165.4	1 200.7	1 236.0	1 271.3	1 306.6	1 342.0	1 377.3
40	1 412.6	1 447.9	1 483.2	1 518.5	1 553.8	1 589.2	1 624.5	1 659.8	1 695.1	1 730.4
50	1 765.7	1 801.0	1 836.4	1 871.7	1 907.0	1 942.3	1 977.6	2 012.9	2 048.3	2 083.6
60	2 118.9	2 154.2	2 189.5	2 224.8	2 260.1	2 295.5	2 330.8	2 366.1	2 401.4	2 436.7
70	2 472.0	2 507.3	2 542.7	2 578.0	2 613.3	2 648.6	2 683.9	2 719.2	2 754.5	2 789.9
80	2 825.2	2 860.5	2 895.8	2 931.1	2 966.4	3 001.7	3 037.1	3 072.4	3 107.7	3 143.0
90	3 178.3	3 213.6	3 249.0	3 284.3	3 319.6	3 354.9	3 390.2	3 425.5	3 460.8	3 496.2

Table 32. Cubic feet to cubic metres

Conversion factor: $1 \text{ ft}^3 = 0.0283168 \text{ m}^3$

ft^3	0	1	2	3	4	5	6	7	8	9
	m^3									
0	0.000	0.028	0.057	0.085	0.113	0.142	0.170	0.198	0.227	0.255
10	0.283	0.311	0.340	0.368	0.396	0.425	0.453	0.481	0.510	0.538
20	0.566	0.595	0.623	0.651	0.680	0.708	0.736	0.765	0.793	0.821
30	0.850	0.878	0.906	0.934	0.963	0.991	1.019	1.048	1.076	1.104
40	1.133	1.161	1.189	1.218	1.246	1.274	1.303	1.331	1.359	1.388
50	1.416	1.444	1.472	1.501	1.529	1.557	1.586	1.614	1.642	1.671
60	1.699	1.727	1.756	1.784	1.812	1.841	1.869	1.897	1.926	1.954
70	1.982	2.010	2.039	2.067	2.095	2.124	2.152	2.180	2.209	2.237
80	2.265	2.294	2.322	2.350	2.379	2.407	2.435	2.464	2.492	2.520
90	2.549	2.577	2.605	2.633	2.662	2.690	2.718	2.747	2.775	2.803

Table 33. Cubic metres to hoppus feetConversion factor: $1 \text{ m}^3 = 27.736 \text{ l h ft}$

m^3	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
	h ft									
0.0	0.0	2.8	5.5	8.3	11.1	13.9	16.6	19.4	22.2	25.0
1.0	27.7	30.5	33.3	36.1	38.8	41.6	44.4	47.2	49.9	52.7
2.0	55.5	58.2	61.0	63.8	66.6	69.3	72.1	74.9	77.7	80.4
3.0	83.2	86.0	88.8	91.5	94.3	97.1	99.8	102.6	105.4	108.2
4.0	110.9	113.7	116.5	119.3	122.0	124.8	127.6	130.4	133.1	135.9
5.0	138.7	141.5	144.2	147.0	149.8	152.5	155.3	158.1	160.9	163.6
6.0	166.4	169.2	172.0	174.7	177.5	180.3	183.1	185.8	188.6	191.4
7.0	194.2	196.9	199.7	202.5	205.2	208.0	210.8	213.6	216.3	219.1
8.0	221.9	224.7	227.4	230.2	233.0	235.8	238.5	241.3	244.1	246.9
9.0	249.6	252.4	255.2	257.9	260.7	263.5	266.3	269.0	271.8	274.6

Table 34. Hoppus feet to cubic metresConversion factor: $1 \text{ h ft} = 0.036 054 \text{ l m}^3$

h ft	0	1	2	3	4	5	6	7	8	9
	m^3									
0	0.000	0.036	0.072	0.108	0.144	0.180	0.216	0.252	0.288	0.324
10	0.361	0.397	0.433	0.469	0.505	0.541	0.577	0.613	0.649	0.685
20	0.721	0.757	0.793	0.829	0.865	0.901	0.937	0.973	1.010	1.046
30	1.082	1.118	1.154	1.190	1.226	1.262	1.298	1.334	1.370	1.406
40	1.442	1.478	1.514	1.550	1.586	1.622	1.658	1.695	1.731	1.767
50	1.803	1.839	1.875	1.911	1.947	1.983	2.019	2.055	2.091	2.127
60	2.163	2.199	2.235	2.271	2.307	2.344	2.380	2.416	2.452	2.488
70	2.524	2.560	2.596	2.632	2.668	2.704	2.740	2.776	2.812	2.848
80	2.884	2.920	2.956	2.992	3.029	3.065	3.101	3.137	3.173	3.209
90	3.245	3.281	3.317	3.353	3.389	3.425	3.461	3.497	3.533	3.569

Table 35. Cubic metres to cubic yards

Conversion factor: $1 \text{ m}^3 = 1.30795 \text{ yd}^3$

m^3	0	1	2	3	4	5	6	7	8	9
	yd^3									
0	0.00	1.31	2.62	3.92	5.23	6.54	7.85	9.16	10.46	11.77
10	13.08	14.39	15.70	17.00	18.31	19.62	20.93	22.24	23.54	24.85
20	26.16	27.47	28.77	30.08	31.39	32.70	34.01	35.31	36.62	37.93
30	39.24	40.55	41.85	43.16	44.47	45.78	47.09	48.39	49.70	51.01
40	52.32	53.63	54.93	56.24	57.55	58.86	60.17	61.47	62.78	64.09
50	65.40	66.71	68.01	69.32	70.63	71.94	73.25	74.55	75.86	77.17
60	78.48	79.79	81.09	82.40	83.71	85.02	86.32	87.63	88.94	90.25
70	91.56	92.86	94.17	95.48	96.79	98.10	99.40	100.71	102.02	103.33
80	104.64	105.94	107.25	108.56	109.87	111.18	112.48	113.79	115.10	116.41
90	117.72	119.02	120.33	121.64	122.95	124.26	125.56	126.87	128.18	129.49

Table 36. Cubic yards to cubic metres

Conversion factor: $1 \text{ yd}^3 = 0.764555 \text{ m}^3$

yd^3	0	1	2	3	4	5	6	7	8	9
	m^3									
0	0.00	0.76	1.53	2.29	3.06	3.82	4.59	5.35	6.12	6.88
10	7.65	8.41	9.17	9.94	10.70	11.47	12.23	13.00	13.76	14.53
20	15.29	16.06	16.82	17.58	18.35	19.11	19.88	20.64	21.41	22.17
30	22.94	23.70	24.47	25.23	25.99	26.76	27.52	28.29	29.05	29.82
40	30.58	31.35	32.11	32.88	33.64	34.40	35.17	35.93	36.70	37.46
50	38.23	38.99	39.76	40.52	41.29	42.05	42.82	43.58	44.34	45.11
60	45.87	46.64	47.40	48.17	48.93	49.70	50.46	51.23	51.99	52.75
70	53.52	54.28	55.05	55.81	56.58	57.34	58.11	58.87	59.64	60.40
80	61.16	61.93	62.69	63.46	64.22	64.99	65.75	66.52	67.28	68.05
90	68.81	69.57	70.34	71.10	71.87	72.63	73.40	74.16	74.93	75.69

Table 37. Cubic metres per hectare to hoppers feet per acre

Conversion factor: $1 \text{ m}^3/\text{ha} = 11.224 \text{ h ft/acre}$

m^3/ha	0	10	20	30	40	50	60	70	80	90
	h ft/acre									
0	0	112	224	337	449	561	673	786	898	1 010
100	1 122	1 235	1 347	1 459	1 571	1 684	1 796	1 908	2 020	2 133
200	2 245	2 357	2 469	2 582	2 694	2 806	2 918	3 031	3 143	3 255
300	3 367	3 480	3 592	3 704	3 816	3 929	4 041	4 153	4 265	4 378
400	4 490	4 602	4 714	4 826	4 939	5 051	5 163	5 275	5 388	5 500
500	5 612	5 724	5 837	5 949	6 061	6 173	6 286	6 398	6 510	6 622
600	6 735	6 847	6 959	7 071	7 184	7 296	7 408	7 520	7 633	7 745
700	7 857	7 969	8 082	8 194	8 306	8 418	8 531	8 643	8 755	8 867
800	8 980	9 092	9 204	9 316	9 428	9 541	9 653	9 765	9 877	9 990
900	10 102	10 214	10 326	10 439	10 551	10 663	10 775	10 888	11 000	11 112

Table 38. Hoppers feet per acre to cubic metres per hectare

Conversion factor: $1 \text{ h ft/acre} = 0.089 091 \text{ m}^3/\text{ha}$

h ft/acre	0	100	200	300	400	500	600	700	800	900
	m^3/ha									
0	0.0	8.9	17.8	26.7	35.6	44.5	53.5	62.4	71.3	80.2
1 000	89.1	98.0	106.9	115.8	124.7	133.6	142.5	151.5	160.4	169.3
2 000	178.2	187.1	196.0	204.9	213.8	222.7	231.6	240.5	249.5	258.4
3 000	267.3	276.2	285.1	294.0	302.9	311.8	320.7	329.6	338.5	347.5
4 000	356.4	365.3	374.2	383.1	392.0	400.9	409.8	418.7	427.6	436.5
5 000	445.5	454.4	463.3	472.2	481.1	490.0	498.9	507.8	516.7	525.6
6 000	534.5	543.5	552.4	561.3	570.2	579.1	588.0	596.9	605.8	614.7
7 000	623.6	632.6	641.5	650.4	659.3	668.2	677.1	686.0	694.9	703.8
8 000	712.7	721.6	730.6	739.5	748.4	757.3	766.2	775.1	784.0	792.9
9 000	801.8	810.7	819.6	828.6	837.5	846.4	855.3	864.2	873.1	882.0

Table 39. Cubic metres per tonne (metric) to hoppers feet per tonConversion factor: 1 m³/tonne = 28·181 2 h ft/ton

m ³ /tonne	0·00	0·01	0·02	0·03	0·04	0·05	0·06	0·07	0·08	0·09
	h ft/ton									
0·50	14·09	14·37	14·65	14·94	15·22	15·50	15·78	16·06	16·35	16·63
0·60	16·91	17·19	17·47	17·75	18·04	18·32	18·60	18·88	19·16	19·45
0·70	19·73	20·01	20·29	20·57	20·85	21·14	21·42	21·70	21·98	22·26
0·80	22·54	22·83	23·11	23·39	23·67	23·95	24·24	24·52	24·80	25·08
0·90	25·36	25·64	25·93	26·21	26·49	26·77	27·05	27·34	27·62	27·90
1·00	28·18	28·46	28·74	29·03	29·31	29·59	29·87	30·15	30·44	30·72
1·10	31·00	31·28	31·56	31·84	32·13	32·41	32·69	32·97	33·25	33·54
1·20	33·82	34·10	34·38	34·66	34·94	35·23	35·51	35·79	36·07	36·35
1·30	36·64	36·92	37·20	37·48	37·76	38·04	38·33	38·61	38·89	39·17
1·40	39·45	39·74	40·02	40·30	40·58	40·86	41·14	41·43	41·71	41·99

Table 40. Hoppers feet per ton to cubic metres per tonne (metric)Conversion factor: 1 h ft/ton = 0·035 484 7 m³/tonne

h ft/ton	0·0	0·1	0·2	0·3	0·4	0·5	0·6	0·7	0·8	0·9
	m ³ tonne									
20·0	0·710	0·713	0·717	0·720	0·724	0·727	0·731	0·735	0·738	0·742
21·0	0·745	0·749	0·752	0·756	0·759	0·763	0·766	0·770	0·774	0·777
22·0	0·781	0·784	0·788	0·791	0·795	0·798	0·802	0·806	0·809	0·813
23·0	0·816	0·820	0·823	0·827	0·830	0·834	0·837	0·841	0·845	0·848
24·0	0·852	0·855	0·859	0·862	0·866	0·869	0·873	0·876	0·880	0·884
25·0	0·887	0·891	0·894	0·898	0·901	0·905	0·908	0·912	0·916	0·919
26·0	0·923	0·926	0·930	0·933	0·937	0·940	0·944	0·947	0·951	0·955
27·0	0·958	0·962	0·965	0·969	0·972	0·976	0·979	0·983	0·986	0·990
28·0	0·994	0·997	1·001	1·004	1·008	1·011	1·015	1·018	1·022	1·026
29·0	1·029	1·033	1·036	1·040	1·043	1·047	1·050	1·054	1·057	1·061
30·0	1·065	1·068	1·072	1·075	1·079	1·082	1·086	1·089	1·093	1·096
31·0	1·100	1·104	1·107	1·111	1·114	1·118	1·121	1·125	1·128	1·132
32·0	1·136	1·139	1·143	1·146	1·150	1·153	1·157	1·160	1·164	1·167
33·0	1·171	1·175	1·178	1·182	1·185	1·189	1·192	1·196	1·199	1·203
34·0	1·206	1·210	1·214	1·217	1·221	1·224	1·228	1·231	1·235	1·238
35·0	1·242	1·246	1·249	1·253	1·256	1·260	1·263	1·267	1·270	1·274
36·0	1·277	1·281	1·285	1·288	1·292	1·295	1·299	1·302	1·306	1·309
37·0	1·313	1·316	1·320	1·324	1·327	1·331	1·334	1·338	1·341	1·345
38·0	1·348	1·352	1·356	1·359	1·363	1·366	1·370	1·373	1·377	1·380
39·0	1·384	1·387	1·391	1·395	1·398	1·402	1·405	1·409	1·412	1·416

Note: Cubic metres per tonne to kilogrammes per cubic metre.

$$x \text{ m}^3/\text{tonne} = \frac{1\,000}{x} \text{ kg/m}^3.$$

Table 41. Sawnwood conversions (based on FAO factors)

Unit	Solid Volume				Roundwood Equivalent Without Bark (1)		
	Cubic Metres	Cubic Feet	Stand-ards	1000 Board Feet	Cubic Metres	Cubic Feet (true)	Hoppus Feet
Cubic metre ...	1	35.3	0.214	0.424	1.67	59.0	46.4
Cubic feet	0.028 3	1	0.006 06	0.012	0.047 2	1.67	1.31
Standard (sawn/Petrograd) ...	4.67	165	1	1.98	7.79	275	216
1 000 Board ft ⁽²⁾ } 1 000 Super ft }	2.36	83.3	0.505	1	3.96	140	110
1 load	1.42	50.0	0.303	0.600	2.36	83.3	65.4

Notes: (1) The roundwood equivalent is based on the assumption that the recovery of sawn lumber is 60% of the true under bark volume of the log and that waste is 40%. For home-grown timber the recovery of saleable timber including fencing material, cratewood, sawn mining timber as well as deals, battens and boards, may be as high as 75% of the true under-bark volume of the log. The roundwood equivalent of one true cubic foot of home-grown sawnwood is therefore often taken as 1.33 true cubic feet under-bark and not the 1.67 quoted by FAO.

- (2) 1 board foot = 1 lineal foot of 1 in × 12 in
 = 1 square foot × 1 in thick
 = 1/12 cubic foot (true)

There are exceptions to this (See *Timber Trade Practice*, Mallinson and Grugeon, 1965).

Table 42. Roundwood conversions (based on FAO factors)

Product	Unit ⁽¹⁾	Solid Volume Without Bark		
		Cubic metres	Cubic feet true	Hoppus feet
Roundwood (general) ...	Cubic metre ...	1	35.3	27.7
	Cubic foot true ...	0.028 3	1	0.785
	Load ...	1.13	40.0	31.4
Sawlogs ...	1 000 board feet ...	3.96	140	110
	1 000 super feet ...			
	100 pulgadas ...			
Pulpwood ⁽²⁾ ...	Cord (128 piled cubic feet) ...	2.55	90.0	70.7 ⁽⁴⁾
	Stère ⁽³⁾ ...	0.75	26.5	20.8
	Raummeter ⁽³⁾ ...			
	Russian fathom ...	6.80	240	189
Fuelwood ⁽²⁾ ...	Stère (coniferous) ...	0.70	24.7	19.4
	Stère (broadleaved) ...	0.65	23.0	18.1
	Cord (128 piled cubic feet) ...	2.12	75.0	58.9 ⁽⁴⁾
	Russian fathom ...	5.66	200	157
Pitprops ⁽²⁾ ...	Fathom (216 piled cubic feet) ...	4.28	151	119 ⁽⁵⁾
	Gothenburg standard (180 piled cubic feet) ...	3.40	120	94.3 ⁽⁶⁾
	Cord (128 piled cubic feet) ...	2.42	85.3	67.0

Notes: (1) Units are grouped opposite the products for which they are most commonly used, but certain units are applicable to a variety of products.

(2) Conversion factors for these types of product vary with the straightness of the material and the stacking. The value of the factor for any single specification may vary from those given.

(3) Stère
Raummeter
Pile cubic metre } $1 \text{ m} \times 1 \text{ m} \times 1 \text{ m} = 1 \text{ m}^3$ (piled overall measurement)

(4) Where timber measured in cords comprises mainly hardwood branchwood, as is often the case in Britain, the fuelwood conversion factors are more appropriate than those given for pulpwood.

(5) Generally taken as 120 hoppus feet.

(6) Generally taken as 100 hoppus feet.

SECTION 4. CAPACITY

Table 43. Litres to gallons, British

Conversion factor: 1 litre = 0.219 969 gal

litre	0	1	2	3	4	5	6	7	8	9
	gal									
0	0.00	0.22	0.44	0.66	0.88	1.10	1.32	1.54	1.76	1.98
10	2.20	2.42	2.64	2.86	3.08	3.30	3.52	3.74	3.96	4.18
20	4.40	4.62	4.84	5.06	5.28	5.50	5.72	5.94	6.16	6.38
30	6.60	6.82	7.04	7.26	7.48	7.70	7.92	8.14	8.36	8.58
40	8.80	9.02	9.24	9.46	9.68	9.90	10.12	10.34	10.56	10.78
50	11.00	11.22	11.44	11.66	11.88	12.10	12.32	12.54	12.76	12.98
60	13.20	13.42	13.64	13.86	14.08	14.30	14.52	14.74	14.96	15.18
70	15.40	15.62	15.84	16.06	16.28	16.50	16.72	16.94	17.16	17.38
80	17.60	17.82	18.04	18.26	18.48	18.70	18.92	19.14	19.36	19.58
90	19.80	20.02	20.24	20.46	20.68	20.90	21.12	21.34	21.56	21.78

Note: Litre. The litre in this booklet is taken to be the cubic decimetre as recommended by the Conférence Générale des Poids et Mesures in 1964, and not the litre recognised by the Weights and Measures Act 1963.

Table 44. Gallons, British, to litres

Conversion factor: 1 gal = 4.546 09 litre

gal	0	1	2	3	4	5	6	7	8	9
	litre									
0	0.0	4.5	9.1	13.6	18.2	22.7	27.3	31.8	36.4	40.9
10	45.5	50.0	54.6	59.1	63.6	68.2	72.7	77.3	81.8	86.4
20	90.9	95.5	100.0	104.6	109.1	113.6	118.2	122.7	127.3	131.8
30	136.4	140.9	145.5	150.0	154.6	159.1	163.7	168.2	172.7	177.3
40	181.8	186.4	190.9	195.5	200.0	204.6	209.1	213.7	218.2	222.8
50	227.3	231.8	236.4	240.9	245.5	250.0	254.6	259.1	263.7	268.2
60	272.8	277.3	281.8	286.4	290.9	295.5	300.0	304.6	309.1	313.7
70	318.2	322.8	327.3	331.9	336.4	340.9	345.5	350.0	354.6	359.1
80	363.7	368.2	372.8	377.3	381.9	386.4	391.0	395.5	400.0	404.6
90	409.1	413.7	418.2	422.8	427.3	431.9	436.4	441.0	445.5	450.1

Table 45. Litres to gallons, US

Conversion factor: 1 litre = 0.264 172 US gal

litre	1	2	3	4	5	6	7	8	9
US gal	0.264	0.528	0.793	1.057	1.321	1.585	1.849	2.113	2.378

Table 46. Gallons US to litres

Conversion factor: 1 US gal = 3.785 41 litre

US gal	1	2	3	4	5	6	7	8	9
litre	3.79	7.57	11.36	15.14	18.93	22.71	26.50	30.28	34.07

Table 47. Cubic metres to bushelsConversion factor: 1 m³ = 27.496 2 bushels

m ³	1	2	3	4	5	6	7	8	9
bushel	27.5	55.0	82.5	110.0	137.5	165.0	192.5	220.0	247.5

Table 48. Bushels to cubic metresConversion factor: 1 bushel = 0.036 368 7 m³

bushel	1	2	3	4	5	6	7	8	9
m ³	0.036 4	0.072 7	0.109 1	0.145 5	0.181 8	0.218 2	0.254 6	0.290 9	0.327 3

Table 49. Litres per hectare to gallons, British, per acre

Conversion factor: 1 litre/ha = 0.089 018 4 gal/acre

litre/ha	0	1	2	3	4	5	6	7	8	9
	gal/acre									
0	0.00	0.09	0.18	0.27	0.36	0.45	0.53	0.62	0.71	0.80
10	0.89	0.98	1.07	1.16	1.25	1.34	1.42	1.51	1.60	1.69
20	1.78	1.87	1.96	2.05	2.14	2.23	2.31	2.40	2.49	2.58
30	2.67	2.76	2.85	2.94	3.03	3.12	3.20	3.29	3.38	3.47
40	3.56	3.65	3.74	3.83	3.92	4.01	4.09	4.18	4.27	4.36
50	4.45	4.54	4.63	4.72	4.81	4.90	4.99	5.07	5.16	5.25
60	5.34	5.43	5.52	5.61	5.70	5.79	5.88	5.96	6.05	6.14
70	6.23	6.32	6.41	6.50	6.59	6.68	6.77	6.85	6.94	7.03
80	7.12	7.21	7.30	7.39	7.48	7.57	7.66	7.74	7.83	7.92
90	8.01	8.10	8.19	8.28	8.37	8.46	8.55	8.63	8.72	8.81

Note: Rainfall. 1 mm of rain = 10 000 litre/ha = 10 tonne/ha

Table 50. Gallons, British, per acre to litres per hectare

Conversion factor: 1 gal/acre = 11.233 6 litre/ha

gal/acre	0	1	2	3	4	5	6	7	8	9
	litre/ha									
0	0.0	11.2	22.5	33.7	44.9	56.2	67.4	78.6	89.9	101.1
10	112.3	123.6	134.8	146.0	157.3	168.5	179.7	191.0	202.2	213.4
20	224.7	235.9	247.1	258.4	269.6	280.8	292.1	303.3	314.5	325.8
30	337.0	348.2	359.5	370.7	381.9	393.2	404.4	415.6	426.9	438.1
40	449.3	460.6	471.8	483.0	494.3	505.5	516.7	528.0	539.2	550.4
50	561.7	572.9	584.1	595.4	606.6	617.9	629.1	640.3	651.6	662.8
60	674.0	685.3	696.5	707.7	719.0	730.2	741.4	752.7	763.9	775.1
70	786.4	797.6	808.8	820.1	831.3	842.5	853.8	865.0	876.2	887.5
80	898.7	909.9	921.2	932.4	943.6	954.9	966.1	977.3	988.6	999.8
90	1 011.0	1 022.3	1 033.5	1 044.7	1 056.0	1 067.2	1 078.4	1 089.7	1 100.9	1 112.1

SECTION 5. VELOCITY (SPEED)

Table 51. Metres per second to kilometres per hour

Conversion factor: 1 m/s = 3.6 km/h

m/s	0	1	2	3	4	5	6	7	8	9
	km/h									
0	0.0	3.6	7.2	10.8	14.4	18.0	21.6	25.2	28.8	32.4
10	36.0	39.6	43.2	46.8	50.4	54.0	57.6	61.2	64.8	68.4
20	72.0	75.6	79.2	82.8	86.4	90.0	93.6	97.2	100.8	104.4
30	108.0	111.6	115.2	118.8	122.4	126.0	129.6	133.2	136.8	140.4
40	144.0	147.6	151.2	154.8	158.4	162.0	165.6	169.2	172.8	176.4
50	180.0	183.6	187.2	190.8	194.4	198.0	201.6	205.2	208.8	212.4
60	216.0	219.6	223.2	226.8	230.4	234.0	237.6	241.2	244.8	248.4
70	252.0	255.6	259.2	262.8	266.4	270.0	273.6	277.2	280.8	284.4
80	288.0	291.6	295.2	298.8	302.4	306.0	309.6	313.2	316.8	320.4
90	324.0	327.6	331.2	334.8	338.4	342.0	345.6	349.2	352.8	356.4

Table 52. Kilometres per hour to metres per second

Conversion factor: 1 km/h = 0.277 778 m/s

km/h	0	1	2	3	4	5	6	7	8	9
	m/s									
0	0.00	0.28	0.56	0.83	1.11	1.39	1.67	1.94	2.22	2.50
10	2.78	3.06	3.33	3.61	3.89	4.17	4.44	4.72	5.00	5.28
20	5.56	5.83	6.11	6.39	6.67	6.94	7.22	7.50	7.78	8.06
30	8.33	8.61	8.89	9.17	9.44	9.72	10.00	10.28	10.56	10.83
40	11.11	11.39	11.67	11.94	12.22	12.50	12.78	13.06	13.33	13.61
50	13.89	14.17	14.44	14.72	15.00	15.28	15.56	15.83	16.11	16.39
60	16.67	16.94	17.22	17.50	17.78	18.06	18.33	18.61	18.89	19.17
70	19.44	19.72	20.00	20.28	20.56	20.83	21.11	21.39	21.67	21.94
80	22.22	22.50	22.78	23.06	23.33	23.61	23.89	24.17	24.44	24.72
90	25.00	25.28	25.56	25.83	26.11	26.39	26.67	26.94	27.22	27.50

Table 53. Knots, international, to metres per second

Conversion factor 1 kn = 0.514 444 m/s

kn	1	2	3	4	5	6	7	8	9
m/s	0.514	1.029	1.543	2.058	2.572	3.087	3.601	4.116	4.630

Table 54. Metres per second to knots, international

Conversion factor: 1 m/s = 1.943 84 kn

m/s	1	2	3	4	5	6	7	8	9
kn	1.944	3.888	5.832	7.775	9.719	11.663	13.607	15.551	17.495

Table 55. Knots, international to kilometres per hour

Conversion factor: 1 kn = 1.852 km/h

kn	1	2	3	4	5	6	7	8	9
km/h	1.852	3.704	5.556	7.408	9.260	11.112	12.964	14.816	16.668

Table 56. Kilometres per hour to knots, international

Conversion factor: 1 km/h = 0.539 957 kn

km/h	1	2	3	4	5	6	7	8	9
kn	0.540	1.080	1.620	2.160	2.700	3.240	3.780	4.320	4.860

Note: **1 Knot, international** = 1 international nautical mile per hour
= 1.852 kilometres per hour
= 6 076.12 feet per hour

1 Knot, British = 1 British nautical mile per hour
= 6 080 feet per hour
= 1.853 18 kilometres per hour

SECTION 6. MASS (WEIGHT)

Table 57. Grammes to ounces, avoird.

Conversion factor: 1 g = 0.035 274 0 oz

g	0	1	2	3	4	5	6	7	8	9
	oz									
0	0.000	0.035	0.071	0.106	0.141	0.176	0.212	0.247	0.282	0.317
10	0.353	0.388	0.423	0.459	0.494	0.529	0.564	0.600	0.635	0.670
20	0.705	0.741	0.776	0.811	0.847	0.882	0.917	0.952	0.988	1.023
30	1.058	1.093	1.129	1.164	1.199	1.235	1.270	1.305	1.340	1.376
40	1.411	1.446	1.482	1.517	1.552	1.587	1.623	1.658	1.693	1.728
50	1.764	1.799	1.834	1.870	1.905	1.940	1.975	2.011	2.046	2.081
60	2.116	2.152	2.187	2.222	2.258	2.293	2.328	2.363	2.399	2.434
70	2.469	2.504	2.540	2.575	2.610	2.646	2.681	2.716	2.751	2.787
80	2.822	2.857	2.892	2.928	2.963	2.998	3.034	3.069	3.104	3.139
90	3.175	3.210	3.245	3.280	3.316	3.351	3.386	3.422	3.457	3.492

Table 58. Ounces, avoird. to grammes

Conversion factor: 1 oz = 28.349 5 g

oz	0	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$
	g			
0	0.0	7.1	14.2	21.3
1	28.3	35.4	42.5	49.6
2	56.7	63.8	70.9	78.0
3	85.0	92.1	99.2	106.3
4	113.4	120.5	127.6	134.7
5	141.7	148.8	155.9	163.0
6	170.1	177.2	184.3	191.4
7	198.4	205.5	212.6	219.7
8	226.8	233.9	241.0	248.1
9	255.1	262.2	269.3	276.4
10	283.5	290.6	297.7	304.8
11	311.8	318.9	326.0	333.1
12	340.2	347.3	354.4	361.5
13	368.5	375.6	382.7	389.8
14	396.9	404.0	411.1	418.2
15	425.2	432.3	439.4	446.5

Table 59. Kilogrammes to pounds, avoirdupois.

Conversion factor: 1 kg = 2.204 62 lb

kg	0	1	2	3	4	5	6	7	8	9
	lb									
0	0.0	2.2	4.4	6.6	8.8	11.0	13.2	15.4	17.6	19.8
10	22.0	24.3	26.5	28.7	30.9	33.1	35.3	37.5	39.7	41.9
20	44.1	46.3	48.5	50.7	52.9	55.1	57.3	59.5	61.7	63.9
30	66.1	68.3	70.5	72.8	75.0	77.2	79.4	81.6	83.8	86.0
40	88.2	90.4	92.6	94.8	97.0	99.2	101.4	103.6	105.8	108.0
50	110.2	112.4	114.6	116.8	119.0	121.3	123.5	125.7	127.9	130.1
60	132.3	134.5	136.7	138.9	141.1	143.3	145.5	147.7	149.9	152.1
70	154.3	156.5	158.7	160.9	163.1	165.3	167.6	169.8	172.0	174.2
80	176.4	178.6	180.8	183.0	185.2	187.4	189.6	191.8	194.0	196.2
90	198.4	200.6	202.8	205.0	207.2	209.4	211.6	213.8	216.1	218.3

Table 60. Pounds, avoirdupois, to kilogrammes

Conversion factor: 1 lb = 0.453 592 kg

lb	0	1	2	3	4	5	6	7	8	9
	kg									
0	0.00	0.45	0.91	1.36	1.81	2.27	2.72	3.18	3.63	4.08
10	4.54	4.99	5.44	5.90	6.35	6.80	7.26	7.71	8.16	8.62
20	9.07	9.53	9.98	10.43	10.89	11.34	11.79	12.25	12.70	13.15
30	13.61	14.06	14.51	14.97	15.42	15.88	16.33	16.78	17.24	17.69
40	18.14	18.60	19.05	19.50	19.96	20.41	20.87	21.32	21.77	22.23
50	22.68	23.13	23.59	24.04	24.49	24.95	25.40	25.85	26.31	26.76
60	27.22	27.67	28.12	28.58	29.03	29.48	29.94	30.39	30.84	31.30
70	31.75	32.21	32.66	33.11	33.57	34.02	34.47	34.93	35.38	35.83
80	36.29	36.74	37.19	37.65	38.10	38.56	39.01	39.46	39.92	40.37
90	40.82	41.28	41.73	42.18	42.64	43.09	43.54	44.00	44.45	44.91

Table 61. Tonnes, metric, to tons, British

Conversion factor: 1 tonne = 0.984 207 ton

tonne	0	1	2	3	4	5	6	7	8	9
	ton									
0	0.00	0.98	1.97	2.95	3.94	4.92	5.91	6.89	7.87	8.86
10	9.84	10.83	11.81	12.79	13.78	14.76	15.75	16.73	17.72	18.70
20	19.68	20.67	21.65	22.64	23.62	24.61	25.59	26.57	27.56	28.54
30	29.53	30.51	31.49	32.48	33.46	34.45	35.43	36.42	37.40	38.38
40	39.37	40.35	41.34	42.32	43.31	44.29	45.27	46.26	47.24	48.23
50	49.21	50.19	51.18	52.16	53.15	54.13	55.12	56.10	57.08	58.07
60	59.05	60.04	61.02	62.01	62.99	63.97	64.96	65.94	66.93	67.91
70	68.89	69.88	70.86	71.85	72.83	73.82	74.80	75.78	76.77	77.75
80	78.74	79.72	80.70	81.69	82.67	83.66	84.64	85.63	86.61	87.59
90	88.58	89.56	90.55	91.53	92.52	93.50	94.48	95.47	96.45	97.44

Note: To convert the decimal parts of a ton to hundredweights and quarters use Table 62 below.

Table 62. Hundredweights and quarters to decimal parts of a ton, British

Conversion factor: 1 cwt = 0.05 ton

cwt	0	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	cwt	0	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$
	ton					ton			
0	0	0.01	0.03	0.04	10	0.50	0.51	0.53	0.54
1	0.05	0.06	0.08	0.09	11	0.55	0.56	0.58	0.59
2	0.10	0.11	0.13	0.14	12	0.60	0.61	0.63	0.64
3	0.15	0.16	0.18	0.19	13	0.65	0.66	0.68	0.69
4	0.20	0.21	0.23	0.24	14	0.70	0.71	0.73	0.74
5	0.25	0.26	0.28	0.29	15	0.75	0.76	0.78	0.79
6	0.30	0.31	0.33	0.34	16	0.80	0.81	0.83	0.84
7	0.35	0.36	0.38	0.39	17	0.85	0.86	0.88	0.89
8	0.40	0.41	0.43	0.44	18	0.90	0.91	0.93	0.94
9	0.45	0.46	0.48	0.49	19	0.95	0.96	0.98	0.99

Table 63. Tons, British, to tonnes, metric

Conversion factor: 1 ton = 1·016 05 tonne

ton	0	1	2	3	4	5	6	7	8	9
	tonne									
0	0·00	1·02	2·03	3·05	4·06	5·08	6·10	7·11	8·13	9·14
10	10·16	11·18	12·19	13·21	14·22	15·24	16·26	17·27	18·29	19·30
20	20·32	21·34	22·35	23·37	24·39	25·40	26·42	27·43	28·45	29·47
30	30·48	31·50	32·51	33·53	34·55	35·56	36·58	37·59	38·61	39·63
40	40·64	41·66	42·67	43·69	44·71	45·72	46·74	47·75	48·77	49·79
50	50·80	51·82	52·83	53·85	54·87	55·88	56·90	57·91	58·93	59·95
60	60·96	61·98	62·99	64·01	65·03	66·04	67·06	68·08	69·09	70·11
70	71·12	72·14	73·16	74·17	75·19	76·20	77·22	78·24	79·25	80·27
80	81·28	82·30	83·32	84·33	85·35	86·36	87·38	88·40	89·41	90·43
90	91·44	92·46	93·48	94·49	95·51	96·52	97·54	98·56	99·57	100·59

Table 64. Hundredweights to tonnes, metric

Conversion factor: 1 cwt = 0·050 802 3 tonne

cwt	0	1	2	3	4	5	6	7	8	9
	tonne									
0	0·000	0·051	0·102	0·152	0·203	0·254	0·305	0·356	0·406	0·457
10	0·508	0·559	0·610	0·660	0·711	0·762	0·813	0·864	0·914	0·965

Note: To convert tonnes to kilogrammes, move decimal point three places to the right,
e.g. 10 cwt = 0·508 tonne = 508 kg

Table 65. Quarters to tonnes, metric

Conversion factor: 1 quarter = 0·012 700 6 tonne

quarter	1	2	3
tonne	0·013	0·025	0·038

Table 66. Conversion of kilogrammes per hectare, grammes per square yard, ounces per square yard, pounds per acre, hundredweights per acre

kg/ha	g/yd ²	oz/yd ²	lb/acre	cwt/acre
1	0.083 6	0.002 95	0.892	0.007 97
2	0.167 2	0.005 90	1.784	0.015 93
3	0.250 8	0.008 85	2.677	0.023 90
4	0.334 5	0.011 80	3.569	0.031 86
5	0.418 1	0.014 75	4.461	0.039 83
6	0.501 7	0.017 70	5.353	0.047 80
7	0.585 3	0.020 65	6.245	0.055 76
8	0.668 9	0.023 60	7.137	0.063 73
9	0.752 5	0.026 54	8.030	0.071 69
11.96	1	0.035 3	10.67	0.095 3
23.92	2	0.070 5	21.34	0.190 5
35.88	3	0.105 8	32.01	0.285 8
47.84	4	0.141 1	42.68	0.381 1
59.80	5	0.176 4	53.35	0.476 4
71.76	6	0.211 6	64.02	0.571 6
83.72	7	0.246 9	74.69	0.666 9
95.68	8	0.282 2	85.36	0.762 2
107.64	9	0.317 5	96.03	0.857 4
339	28.3	1	303	2.70
678	56.7	2	605	5.40
1 017	85.0	3	908	8.10
1 356	113.4	4	1 210	10.80
1 695	141.7	5	1 513	13.50
2 034	170.1	6	1 815	16.21
2 373	198.4	7	2 118	18.91
2 712	226.8	8	2 420	21.61
3 052	255.1	9	2 723	24.31
1.121	0.094	0.003 31	1	0.008 93
2.242	0.187	0.006 61	2	0.017 86
3.363	0.281	0.009 92	3	0.026 79
4.483	0.375	0.013 22	4	0.035 71
5.604	0.469	0.016 53	5	0.044 64
6.725	0.562	0.019 83	6	0.053 57
7.846	0.656	0.023 14	7	0.062 50
8.967	0.750	0.026 45	8	0.071 43
10.088	0.843	0.029 75	9	0.080 36
125.5	10.50	0.370	112	1
251.1	20.99	0.740	224	2
376.6	31.49	1.111	336	3
502.1	41.99	1.481	448	4
627.7	52.48	1.851	560	5
753.2	62.98	2.221	672	6
878.7	73.47	2.592	784	7
1 004.3	83.97	2.962	896	8
1 129.8	94.47	3.332	1 008	9

Note: Grammes per square metre. To substitute g/m² for kg/ha use the figures in the above table with the decimal point moved one place to the right, e.g. 1 g/m² = 10 kg/ha = 0.029 5 oz/yd².

Table 67. Kilogrammes per cubic metre to pounds per hoppus foot

Conversion factor: $1 \text{ kg/m}^3 = 0.079\,485\,7 \text{ lb/h ft}$

kg/m^3	0	1	2	3	4	5	6	7	8	9
	lb/h ft									
0	0.000	0.079	0.159	0.238	0.318	0.397	0.477	0.556	0.636	0.715
10	0.795	0.874	0.954	1.033	1.113	1.192	1.272	1.351	1.431	1.510
20	1.590	1.669	1.749	1.828	1.908	1.987	2.067	2.146	2.226	2.305
30	2.385	2.464	2.544	2.623	2.703	2.782	2.861	2.941	3.020	3.100
40	3.179	3.259	3.338	3.418	3.497	3.577	3.656	3.736	3.815	3.895
50	3.974	4.054	4.133	4.213	4.292	4.372	4.451	4.531	4.610	4.690
60	4.769	4.849	4.928	5.008	5.087	5.167	5.246	5.326	5.405	5.485
70	5.564	5.643	5.723	5.802	5.882	5.961	6.041	6.120	6.200	6.279
80	6.359	6.438	6.518	6.597	6.677	6.756	6.836	6.915	6.995	7.074
90	7.154	7.233	7.313	7.392	7.472	7.551	7.631	7.710	7.790	7.869

Table 68. Pounds per hoppus foot to kilogrammes per cubic metre

Conversion factor: $1 \text{ lb/h ft} = 12.580\,9 \text{ kg/m}^3$

lb/h ft	0	1	2	3	4	5	6	7	8	9
	kg/m^3									
0	0	13	25	38	50	63	75	88	101	113
10	126	138	151	164	176	189	201	214	226	239
20	252	264	277	289	302	315	327	340	352	365
30	377	390	403	415	428	440	453	465	478	491
40	503	516	528	541	554	566	579	591	604	616
50	629	642	654	667	679	692	705	717	730	742
60	755	767	780	793	805	818	830	843	855	868
70	881	893	906	918	931	944	956	969	981	994
80	1 006	1 019	1 032	1 044	1 057	1 069	1 082	1 095	1 107	1 120
90	1 132	1 145	1 157	1 170	1 183	1 195	1 208	1 220	1 233	1 246

Notes: Specific Gravity. To convert kilogrammes per cubic metre to specific gravity move the decimal point three places to the left, e.g. $1\,246 \text{ kg/m}^3 = 1.246$ specific gravity. Since $1\,000 \text{ kg/m}^3 = 1 \text{ tonne/m}^3$, specific gravity = tonne/m³. Nominal specific gravity which is generally used in standard timber tests, is based on the volume of the wood at the time of test and its weight when oven dried.

Kilogrammes per cubic metre to cubic metres per tonne. $x \text{ kg/m}^3 = \frac{1\,000}{x} \text{ m}^3/\text{tonne}$.

Table 69. Conversion of grammes per litre, grammes per gallon, ounces per gallon and pounds per gallon

g/litre	g/gal	oz/gal	lb/gal
1	4.55	0.160 4	0.010 02
2	9.09	0.320 7	0.020 04
3	13.64	0.481 1	0.030 07
4	18.18	0.641 4	0.040 09
5	22.73	0.801 8	0.050 11
6	27.28	0.962 1	0.060 13
7	31.82	1.122 5	0.070 16
8	36.37	1.282 9	0.080 18
9	40.91	1.443 2	0.090 20
0.220	1	0.035 3	0.002 20
0.440	2	0.070 5	0.004 41
0.660	3	0.105 8	0.006 61
0.880	4	0.141 1	0.008 82
1.100	5	0.176 4	0.011 02
1.320	6	0.211 6	0.013 23
1.540	7	0.246 9	0.015 43
1.760	8	0.282 2	0.017 64
1.980	9	0.317 5	0.019 84
6.24	28.3	1	0.062 5
12.47	56.7	2	0.125 0
18.71	85.0	3	0.187 5
24.94	113.4	4	0.250 0
31.18	141.7	5	0.312 5
37.42	170.1	6	0.375 0
43.65	198.4	7	0.437 5
49.89	226.8	8	0.500 0
56.12	255.1	9	0.562 5
99.8	454	16	1
199.6	907	32	2
299.3	1 361	48	3
399.1	1 814	64	4
498.9	2 268	80	5
598.7	2 722	96	6
698.4	3 175	112	7
798.2	3 629	128	8
898.0	4 082	144	9

Note: **Grammes per litre to percentage solution.** Use column 1 with decimal place moved one place to the left, e.g. 10 grammes per litre equals 1 per cent solution.

1 gramme per litre equals 1 000 parts per million, e.g. 3 grammes per gallon = 0.660 grammes per litre = 660 parts per million.

SECTION 7. FERTILISERS

Table 70. Analyses of fertilisers and liming materials likely to be used in forestry, including nurseries.

- | | |
|----------------|----------------------------|
| (a) Nitrogen | (d) Liming materials |
| (b) Phosphorus | (e) Magnesium |
| (c) Potassium | (f) More than one nutrient |

a. Nitrogen fertilisers

Name	Formula	%N declared	approx	Remarks (condition, other constituents, etc.)
Sulphate of ammonia (Ammonium sulphate)	$(\text{NH}_4)_2\text{SO}_4$	20.6	—	Crystalline
'Nitro-Chalk'	$\text{NH}_4\text{NO}_3 + \text{CaCO}_3$	21	—	Granular. 38% CaCO_3 . Must be stored in moisture-proof containers.
Nitra-Shell 23	$\text{NH}_4\text{NO}_3 + \text{CaCO}_3$	23	—	34% CaCO_3 } Granular. Must be stored in moisture- proof containers.
Nitra-Shell 26	$\text{NH}_4\text{NO}_3 + \text{CaCO}_3$	26	—	
Nitra-Shell 34*	NH_4NO_3	34	—	
'Nitram'* (Ammonium nitrate)	NH_4NO_3	34.5	—	Prilled. Must be stored in moisture-proof containers.
Fison's Nitro 26 (Ammonium sulphate nitrate)	$(\text{NH}_4)_2\text{SO}_4 + \text{NH}_4\text{NO}_3$	26	—	Granular. Must be stored in moisture-proof containers.

When used in forest nurseries on light sandy soils, all the above materials have an acidifying effect, some more than others. All are hygroscopic, i.e., they absorb moisture from the air.

Urea	$(\text{NH}_2)_2\text{CO}$	46	—
Hoof and horn meal	—	12-14	—
Dried blood	—	12-14	—

*Note: Should not be stored with or contaminated by combustible material e.g. straw or wood shavings.

Table 70 cont.

b. Phosphorus fertilisers

The particular forms of phosphate in these fertilisers required to be stated by current Fertilisers Regulations are shown in the footnotes to this table.

Name	% P ₂ O ₅ (P) approx	Remarks (condition, other constituents, etc.)
Superphosphate ¹	18-20(8-9)	Granular or powdered. Contains about 50% calcium sulphate.
Triple Super-phosphate ¹	44(19) & 47(21)	Granular. Contains about 5% calcium sulphate.
Mineral or rock phosphate ²	27-29(12-13)	The name usually indicates the source, e.g. Gafsa (Tunis)
Basic slag ³	6-22 (3-10)	Raises pH, especially slags with low % total P ₂ O ₅
Bone meal ²	20(9)	2-5% N
Steamed bone flour ²	28(12)	1% N

Notes: (1) Water soluble phosphate

(2) Total phosphate

(3) Total and citric acid-soluble phosphate

c. Potassium fertilisers

Name	Formula	% K ₂ O(K) approx	Remarks (condition, other constituents, etc.)
Sulphate of potash (potassium sulphate)	K ₂ SO ₄	50(42)	Crystalline
Muriate of potash (potassium chloride)	KCl	60(50)	The ordinary salt is hygroscopic; also a free-flowing type. Must be stored in moisture-proof containers.

Table 70 cont.

d. Liming materials containing calcium and/or magnesium

The main forms are bought on a declared "Neutralising Value", which is determined by laboratory tests and expressed as calcium oxide (CaO).

Name	Formula
Carbonate of lime, Chalk or Limestone	CaCO_3
Magnesian Limestone	$\text{CaCO}_3 + \text{MgCO}_3$ (usually 20–40% MgCO_3)
Dolomite (pure)	54% $\text{CaCO}_3 + 46\%$ MgCO_3

e. Magnesium fertilisers

Name	Formula	% MgO (Mg) approx
Magnesium sulphate (Epsom salts)	$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	16(10)
Kieserite	$\text{MgSO}_4 \cdot \text{H}_2\text{O}$	29(18)
Calcined magnesite	MgO	80(48)

Table 70 cont.

f. Fertilisers supplying more than one nutrient

Name	Declared Analysis			
	% N	P ₂ O ₅ % (P)	K ₂ O % (K)	MgO % (Mg)
NPK Fertilisers				
'Enmag'	6.6	28 (12.3)	10 (8.3)	21 (12.6)
Fisons 55	8	20 (8.8)	16 (13.3)	
NK Fertilisers				
'Kaynitro'	25		16 (13.3)	
'Nitro-potash'	21		11 (9.1)	
Potassium nitrate (approx)	13.5		46.5 (38.5)	
PK Fertilisers				
Fisons Double Season PK		20 (8.8)	20 (16.6)	
SAI* Potassic supers		19.5 (8.6)	10 (8.3)	

*Note: SAI. Scottish Agricultural Industries, Ltd.

To substitute one fertiliser for another

- (i) Ascertain the weight of the nutrient element, e.g. N P K etc. per unit area in the original prescription.
- (ii) Ascertain the percentage concentration of the required element in the substitute.
- (iii) Calculate the total weight of the substitute fertiliser required.

e.g. Prescription 400 kg/ha of rock phosphate (13% P). This provides

$$400 \times \frac{13}{100} \text{ kg/ha of P.} = 52 \text{ kg/ha}$$

Substitute Rock phosphate (16%P). Weight required to provide 52 kg/ha of P

$$= 52 \times \frac{100}{16} = 325 \text{ kg/ha of fertiliser.}$$

SECTION 8. MISCELLANEOUS

Table 71. Fractions and decimal equivalents

Fraction	Decimal Equivalent	Fraction	Decimal Equivalent
1/2	0.500 000	1/34	0.029 412
1/3	0.333 333	1/35	0.028 571
1/4	0.250 000	1/36	0.027 778
1/5	0.200 000	1/37	0.027 027
1/6	0.166 667	1/38	0.026 316
1/7	0.142 857	1/39	0.025 641
1/8	0.125 000	1/40	0.025 000
1/9	0.111 111	1/41	0.024 390
1/10	0.100 000	1/42	0.023 810
1/11	0.090 909	1/43	0.023 256
1/12	0.083 333	1/44	0.022 727
1/13	0.076 923	1/45	0.022 222
1/14	0.071 429	1/46	0.021 739
1/15	0.066 667	1/47	0.021 277
1/16	0.062 500	1/48	0.020 833
1/17	0.058 824	1/49	0.020 408
1/18	0.055 556	1/50	0.020 000
1/19	0.052 632	1/51	0.019 608
1/20	0.050 000	1/52	0.019 231
1/21	0.047 619	1/53	0.018 868
1/22	0.045 455	1/54	0.018 519
1/23	0.043 478	1/55	0.018 182
1/24	0.041 667	1/56	0.017 857
1/25	0.040 000	1/57	0.017 544
1/26	0.038 462	1/58	0.017 241
1/27	0.037 037	1/59	0.016 949
1/28	0.035 714	1/60	0.016 667
1/29	0.034 483		
1/30	0.033 333		
1/31	0.032 258		
1/32	0.031 250		
1/33	0.030 303		

Table 72. Sixtieths to decimals

1/6	1/12	1/15	1/60	Decimal Equivalent	1/6	1/12	1/15	1/60	Decimal Equivalent
1	1	1	1	0·016 667	4	7	9	33	0·550 000
			2	0·033 333				34	0·566 667
			3	0·050 000				35	0·583 333
			4	0·066 667				36	0·600 000
	1	2	5	0·083 333		8	10	37	0·616 667
			6	0·100 000				38	0·633 333
			7	0·116 667				39	0·650 000
			8	0·133 333				40	0·666 667
	2	3	9	0·150 000		9	11	41	0·683 333
			10	0·166 667				42	0·700 000
			11	0·183 333				43	0·716 667
			12	0·200 000				44	0·733 333
	3	4	13	0·216 667		10	12	45	0·750 000
			14	0·233 333				46	0·766 667
			15	0·250 000				47	0·783 333
			16	0·266 667				48	0·800 000
2	4	5	17	0·283 333	5	11	14	49	0·816 667
			18	0·300 000				50	0·833 333
			19	0·316 667				51	0·850 000
			20	0·333 333				52	0·866 667
	5	6	21	0·350 000		12	15	53	0·883 333
			22	0·366 667				54	0·900 000
			23	0·383 333				55	0·916 667
			24	0·400 000				56	0·933 333
	6	7	25	0·416 667		12	15	57	0·950 000
			26	0·433 333				58	0·966 667
			27	0·450 000				59	0·983 333
			28	0·466 667				60	1·000 000
3	6	8	29	0·483 333		12	15		
			30	0·500 000					
			31	0·516 667					
			32	0·533 333					

Notes: Use 1/12 column for inches to feet, e.g. 1 in = 0·083 333 ft

Use 1/60 column for seconds to minutes, and minutes to hours

Table 73. Sixtyfourths to decimals

1/8	1/16	1/32	1/64	Decimal Equivalent	1/8	1/16	1/32	1/64	Decimal Equivalent
1	1	1	1	0.015 625	5	9	17	33	0.515 625
			2	0.031 250				34	0.531 250
			3	0.046 875				35	0.546 875
			4	0.062 500				36	0.562 500
		3	5	0.078 125			19	37	0.578 125
			6	0.093 750				38	0.593 750
			7	0.109 375				39	0.609 375
			8	0.125 000				40	0.625 000
	2	5	9	0.140 625		10	21	41	0.640 625
			10	0.156 250				42	0.656 250
			11	0.171 875				43	0.671 875
			12	0.187 500				44	0.687 500
		7	13	0.203 125			23	45	0.703 125
			14	0.218 750				46	0.718 750
			15	0.234 375				47	0.734 375
			16	0.250 000				48	0.750 000
2	4	9	17	0.265 625	6	12	25	49	0.765 625
			18	0.281 250				50	0.781 250
			19	0.296 875				51	0.796 875
			20	0.312 500				52	0.812 500
		11	21	0.328 125		13	27	53	0.828 125
			22	0.343 750				54	0.843 750
			23	0.359 375				55	0.859 375
			24	0.375 000				56	0.875 000
	5	13	25	0.390 625		14	29	57	0.890 625
			26	0.406 250				58	0.906 250
			27	0.421 875				59	0.921 875
			28	0.437 500				60	0.937 500
		15	29	0.453 125		15	31	61	0.953 125
			30	0.468 750				62	0.968 750
			31	0.484 375				63	0.984 375
			32	0.500 000				64	1.000 000
3	6	12	25	0.390 625	7	14	28	57	0.890 625
			26	0.406 250				58	0.906 250
			27	0.421 875				59	0.921 875
			28	0.437 500				60	0.937 500
		14	29	0.453 125		15	30	61	0.953 125
			30	0.468 750				62	0.968 750
			31	0.484 375				63	0.984 375
			32	0.500 000				64	1.000 000
4	7	13	25	0.390 625		15	29	57	0.890 625
			26	0.406 250				58	0.906 250
			27	0.421 875				59	0.921 875
			28	0.437 500				60	0.937 500
		15	29	0.453 125			31	61	0.953 125
			30	0.468 750				62	0.968 750
			31	0.484 375				63	0.984 375
			32	0.500 000				64	1.000 000
5	8	16	25	0.390 625	8	16	32	57	0.890 625
			26	0.406 250				58	0.906 250
			27	0.421 875				59	0.921 875
			28	0.437 500				60	0.937 500
		17	29	0.453 125			33	61	0.953 125
			30	0.468 750				62	0.968 750
			31	0.484 375				63	0.984 375
			32	0.500 000				64	1.000 000
	9	18	25	0.390 625		17	34	57	0.890 625
			26	0.406 250				58	0.906 250
			27	0.421 875				59	0.921 875
			28	0.437 500				60	0.937 500
		19	29	0.453 125			35	61	0.953 125
			30	0.468 750				62	0.968 750
			31	0.484 375				63	0.984 375
			32	0.500 000				64	1.000 000

Note: Use 1/16 column for ounces to pounds, e.g. 1 oz = 0.062 5 pounds

Table 74. Slope Equivalents

Angle of Slope		Gradient 1 in	Percentage Grade
degrees	radians		
0	0	∞	0
$\frac{1}{4}$	0.004	229.2	0.4
$\frac{1}{2}$	0.009	114.6	0.9
$\frac{3}{4}$	0.013	76.4	1.3
1	0.017	57.3	1.8
$1\frac{1}{4}$	0.022	45.9	2.2
$1\frac{1}{2}$	0.026	38.2	2.6
$1\frac{3}{4}$	0.031	32.7	3.1
2	0.035	28.6	3.5
$2\frac{1}{4}$	0.039	25.5	3.9
$2\frac{1}{2}$	0.044	22.9	4.4
$2\frac{3}{4}$	0.048	20.8	4.8
3	0.052	19.1	5.2
$3\frac{1}{2}$	0.061	16.4	6.1
4	0.070	14.3	7.0
$4\frac{1}{2}$	0.079	12.7	7.9
5	0.087	11.4	8.8
$5\frac{1}{2}$	0.096	10.4	9.6
6	0.105	9.5	10.5
$6\frac{1}{2}$	0.113	8.8	11.4
7	0.122	8.1	12.3
8	0.140	7.1	14.1
9	0.157	6.3	15.8
10	0.175	5.7	17.6
11	0.192	5.1	19.4
12	0.209	4.7	21.3
13	0.227	4.3	23.1
14	0.244	4.0	24.9
15	0.262	3.7	26.8
16	0.279	3.5	28.7
17	0.297	3.3	30.6
18	0.314	3.1	32.5
19	0.332	2.9	34.4

Note: Gradient is the Natural Cotangent of the angle of slope, and
 Percentage Grade is the Natural Tangent of the angle of slope $\times 100$.

Table 75. Kilogrammes force per square centimetre to pounds force per square inch

Conversion factor: $1 \text{ kgf/cm}^2 = 14.223 \text{ 3 lbf/in}^2$

kgf/cm ²	0	1	2	3	4	5	6	7	8	9
	lbf/in ²									
0	0	14	28	43	57	71	85	100	114	128
10	142	156	171	185	199	213	228	242	256	270
20	284	299	313	327	341	356	370	384	398	412
30	427	441	455	469	484	498	512	526	540	555
40	569	583	597	612	626	640	654	668	683	697
50	711	725	740	754	768	782	797	811	825	839
60	853	868	882	896	910	925	939	953	967	981
70	996	1 010	1 024	1 038	1 053	1 067	1 081	1 095	1 109	1 124
80	1 138	1 152	1 166	1 181	1 195	1 209	1 223	1 237	1 252	1 266
90	1 280	1 294	1 309	1 323	1 337	1 351	1 365	1 380	1 394	1 408

Note: Kilogrammes force per square centimetre is commonly referred to as **kilogrammes per square centimetre, kg/cm²**. Similarly pounds force per square inch is commonly referred to as **pounds per square inch, p.s.i. or lb/in²**

Table 76. Pounds force per square inch to kilogrammes force per square centimetre

Conversion factor: $1 \text{ lbf/in}^2 = 0.070 \text{ 307 0 kgf/cm}^2$

lbf/in ²	0	1	2	3	4	5	6	7	8	9
	kgf/cm ²									
0	0.000	0.070	0.141	0.211	0.281	0.352	0.422	0.492	0.562	0.633
10	0.703	0.773	0.844	0.914	0.984	1.055	1.125	1.195	1.266	1.336
20	1.406	1.476	1.547	1.617	1.687	1.758	1.828	1.898	1.969	2.039
30	2.109	2.180	2.250	2.320	2.390	2.461	2.531	2.601	2.672	2.742
40	2.812	2.883	2.953	3.023	3.094	3.164	3.234	3.304	3.375	3.445
50	3.515	3.586	3.656	3.726	3.797	3.867	3.937	4.007	4.078	4.148
60	4.218	4.289	4.359	4.429	4.500	4.570	4.640	4.711	4.781	4.851
70	4.921	4.992	5.062	5.132	5.203	5.273	5.343	5.414	5.484	5.554
80	5.625	5.695	5.765	5.835	5.906	5.976	6.046	6.117	6.187	6.257
90	6.328	6.398	6.468	6.539	6.609	6.679	6.749	6.820	6.890	6.960

Tyre pressures. It is likely that **Kilogrammes force per square centimetre** will be used for a number of years. Other units that may eventually be used are:

bar, b or bar

kilonewton per square metre, kN/m²1 lbf/in² = 0.068 947 6 bar1 lbf/in² = 6.894 76 kN/m²1 bar = 14.503 8 lbf/in²1 kN/m² = 0.145 038 lbf/in²

Table 77. Kilowatts to horsepower

Conversion factor: 1 kW = 1.341 02 hp

kW	0	1	2	3	4	5	6	7	8	9
	hp									
0	0.0	1.3	2.7	4.0	5.4	6.7	8.0	9.4	10.7	12.1
10	13.4	14.8	16.1	17.4	18.8	20.1	21.5	22.8	24.1	25.5
20	26.8	28.2	29.5	30.8	32.2	33.5	34.9	36.2	37.5	38.9
30	40.2	41.6	42.9	44.3	45.6	46.9	48.3	49.6	51.0	52.3
40	53.6	55.0	56.3	57.7	59.0	60.3	61.7	63.0	64.4	65.7
50	67.1	68.4	69.7	71.1	72.4	73.8	75.1	76.4	77.8	79.1
60	80.5	81.8	83.1	84.5	85.8	87.2	88.5	89.8	91.2	92.5
70	93.9	95.2	96.6	97.9	99.2	100.6	101.9	103.3	104.6	105.9
80	107.3	108.6	110.0	111.3	112.6	114.0	115.3	116.7	118.0	119.4
90	120.7	122.0	123.4	124.7	126.1	127.4	128.7	130.1	131.4	132.8

Table 78. Horsepower to kilowatts

Conversion factor: 1 hp = 0.745 700 kW

hp	0	1	2	3	4	5	6	7	8	9
	kW									
0	0.00	0.75	1.49	2.24	2.98	3.73	4.47	5.22	5.97	6.71
10	7.46	8.20	8.95	9.69	10.44	11.19	11.93	12.68	13.42	14.17
20	14.91	15.66	16.41	17.15	17.90	18.64	19.39	20.13	20.88	21.63
30	22.37	23.12	23.86	24.61	25.35	26.10	26.85	27.59	28.34	29.08
40	29.83	30.57	31.32	32.07	32.81	33.56	34.30	35.05	35.79	36.54
50	37.29	38.03	38.78	39.52	40.27	41.01	41.76	42.50	43.25	44.00
60	44.74	45.49	46.23	46.98	47.72	48.47	49.22	49.96	50.71	51.45
70	52.20	52.94	53.69	54.44	55.18	55.93	56.67	57.42	58.16	58.91
80	59.66	60.40	61.15	61.89	62.64	63.38	64.13	64.88	65.62	66.37
90	67.11	67.86	68.60	69.35	70.10	70.84	71.59	72.33	73.08	73.82

Table 79. Conversion of degrees Celsius (centigrade) to degrees Fahrenheit and vice versa

When the central value in any row is taken to be in °C, its equivalent in °F is shown on the right: when the central value is taken to be °F its equivalent in °C is shown on the left.

Conversion factors $^{\circ}\text{C} = \frac{5}{9} (^{\circ}\text{F} - 32)$; $^{\circ}\text{F} = \left(\frac{9}{5} ^{\circ}\text{C}\right) + 32$

$^{\circ}\text{C}$	$\leftarrow$ $^{\circ}\text{F}$	$\rightarrow$ $^{\circ}\text{C}$	$^{\circ}\text{F}$	$^{\circ}\text{C}$	$\leftarrow$ $^{\circ}\text{F}$	$\rightarrow$ $^{\circ}\text{C}$	$^{\circ}\text{F}$	$^{\circ}\text{C}$	$\leftarrow$ $^{\circ}\text{F}$	$\rightarrow$ $^{\circ}\text{C}$	$^{\circ}\text{F}$
-28.9	-20	-4.0	-9.4	15	59.0	10.0	50	122.0			
-28.3	-19	-2.2	-8.9	16	60.8	10.6	51	123.8			
-27.8	-18	-0.4	-8.3	17	62.6	11.1	52	125.6			
-27.2	-17	1.4	-7.8	18	64.4	11.7	53	127.4			
-26.7	-16	3.2	-7.2	19	66.2	12.2	54	129.2			
-26.1	-15	5.0	-6.7	20	68.0	12.8	55	131.0			
-25.6	-14	6.8	-6.1	21	69.8	13.3	56	132.8			
-25.0	-13	8.6	-5.6	22	71.6	13.9	57	134.6			
-24.4	-12	10.4	-5.0	23	73.4	14.4	58	136.4			
-23.9	-11	12.2	-4.4	24	75.2	15.0	59	138.2			
-23.3	-10	14.0	-3.9	25	77.0	15.6	60	140.0			
-22.8	-9	15.8	-3.3	26	78.8	16.1	61	141.8			
-22.2	-8	17.6	-2.8	27	80.6	16.7	62	143.6			
-21.7	-7	19.4	-2.2	28	82.4	17.2	63	145.4			
-21.1	-6	21.2	-1.7	29	84.2	17.8	64	147.2			
-20.6	-5	23.0	-1.1	30	86.0	18.3	65	149.0			
-20.0	-4	24.8	-0.6	31	87.8	18.9	66	150.8			
-19.4	-3	26.6	0.0	32	89.6	19.4	67	152.6			
-18.9	-2	28.4	0.6	33	91.4	20.0	68	154.4			
-18.3	-1	30.2	1.1	34	93.2	20.6	69	156.2			
-17.8	0	32.0	1.7	35	95.0	21.1	70	158.0			
-17.2	1	33.8	2.2	36	96.8	21.7	71	159.8			
-16.7	2	35.6	2.8	37	98.6	22.2	72	161.6			
-16.1	3	37.4	3.3	38	100.4	22.8	73	163.4			
-15.6	4	39.2	3.9	39	102.2	23.3	74	165.2			
-15.0	5	41.0	4.4	40	104.0	23.9	75	167.0			
-14.4	6	42.8	5.0	41	105.8	24.4	76	168.8			
-13.9	7	44.6	5.6	42	107.6	25.0	77	170.6			
-13.3	8	46.4	6.1	43	109.4	25.6	78	172.4			
-12.8	9	48.2	6.7	44	111.2	26.1	79	174.2			
-12.2	10	50.0	7.2	45	113.0	26.7	80	176.0			
-11.7	11	51.8	7.8	46	114.8	27.2	81	177.8			
-11.1	12	53.6	8.3	47	116.6	27.8	82	179.6			
-10.6	13	55.4	8.9	48	118.4	28.3	83	181.4			
-10.0	14	57.2	9.4	49	120.2	28.9	84	183.2			

Table 79 (cont.). Conversion of degrees Celsius (centigrade) to degrees Fahrenheit and vice versa.

When the central value in any row is taken to be in °C, its equivalent in °F is shown on the right: when the central value is taken to be °F its equivalent in °C is shown on the left.

$$\text{Conversion factors } ^\circ\text{C} = \frac{5}{9} (^{\circ}\text{F} - 32): \quad ^\circ\text{F} = \left(\frac{9}{5} ^\circ\text{C}\right) + 32$$

°C	← °F	→ °C	°F	°C	← °F	→ °C	°F	°C	← °F	→ °C	°F
29.4	85		185.0	48.9	120		248.0	68.3	155		311.0
30.0	86		186.8	49.4	121		249.8	68.9	156		312.8
30.6	87		188.6	50.0	122		251.6	69.4	157		314.6
31.1	88		190.4	50.6	123		253.4	70.0	158		316.4
31.7	89		192.2	51.1	124		255.2	70.6	159		318.2
32.2	90		194.0	51.7	125		257.0	71.1	160		320.0
32.8	91		195.8	52.2	126		258.8	71.7	161		321.8
33.3	92		197.6	52.8	127		260.6	72.2	162		323.6
33.9	93		199.4	53.3	128		262.4	72.8	163		325.4
34.4	94		201.2	53.9	129		264.2	73.3	164		327.2
35.0	95		203.0	54.4	130		266.0	73.9	165		329.0
35.6	96		204.8	55.0	131		267.8	74.4	166		330.8
36.1	97		206.6	55.6	132		269.6	75.0	167		332.6
36.7	98		208.4	56.1	133		271.4	75.6	168		334.4
37.2	99		210.2	56.7	134		273.2	76.1	169		336.2
37.8	100		212.0	57.2	135		275.0	76.7	170		338.0
38.3	101		213.8	57.8	136		276.8	77.2	171		339.8
38.9	102		215.6	58.3	137		278.6	77.8	172		341.6
39.4	103		217.4	58.9	138		280.4	78.3	173		343.4
40.0	104		219.2	59.4	139		282.2	78.9	174		345.2
40.6	105		221.0	60.0	140		284.0	79.4	175		347.0
41.1	106		222.8	60.6	141		285.8	80.0	176		348.8
41.7	107		224.6	61.1	142		287.6	80.6	177		350.6
42.2	108		226.4	61.7	143		289.4	81.1	178		352.4
42.8	109		228.2	62.2	144		291.2	81.7	179		354.2
43.3	110		230.0	62.8	145		293.0	82.2	180		356.0
43.9	111		231.8	63.3	146		294.8	82.8	181		357.8
44.4	112		233.6	63.9	147		296.6	83.3	182		359.6
45.0	113		235.4	64.4	148		298.4	83.9	183		361.4
45.6	114		237.2	65.0	149		300.2	84.4	184		363.2
46.1	115		239.0	65.6	150		302.0	85.0	185		365.0
46.7	116		240.8	66.1	151		303.8	85.6	186		366.8
47.2	117		242.6	66.7	152		305.6	86.1	187		368.6
47.8	118		244.4	67.2	153		307.4	86.7	188		370.4
48.3	119		246.2	67.8	154		309.2	87.2	189		372.2

Table 79 (cont.). Conversion of degrees Celsius (centigrade) to degrees Fahrenheit and vice versa.

°C	← °F	→ °C	°F	°C	← °F	→ °C	°F	°C	← °F	→ °C	°F
87·8	190		374·0	98·9	210		410·0	110·0	230		446·0
88·3	191		375·8	99·4	211		411·8	110·6	231		447·8
88·9	192		377·6	100·0	212		413·6	111·1	232		449·6
89·4	193		379·4	100·6	213		415·4	111·7	233		451·4
90·0	194		381·2	101·1	214		417·2	112·2	234		453·2
90·6	195		383·0	101·7	215		419·0	112·8	235		455·0
91·1	196		384·8	102·2	216		420·8	113·3	236		456·8
91·7	197		386·6	102·8	217		422·6	113·9	237		458·6
92·2	198		388·4	103·3	218		424·4	114·4	238		460·4
92·8	199		390·2	103·9	219		426·2	115·0	239		462·2
93·3	200		392·0	104·4	220		428·0	115·6	240		464·0
93·9	201		393·8	105·0	221		429·8	116·1	241		465·8
94·4	202		395·6	105·6	222		431·6	116·7	242		467·6
95·0	203		397·4	106·1	223		433·4	117·2	243		469·4
95·6	204		399·2	106·7	224		435·2	117·8	244		471·2
96·1	205		401·0	107·2	225		437·0	118·3	245		473·0
96·7	206		402·8	107·8	226		438·8	118·9	246		474·8
97·2	207		404·6	108·3	227		440·6	119·4	247		476·6
97·8	208		406·4	108·9	228		442·4	120·0	248		478·4
98·3	209		408·2	109·4	229		444·2	120·6	249		480·2

Table 80. Temperature intervals

°C	← °F	→ °C	°F	°C	← °F	→ °C	°F
0·1	0·1		0·2	1	1		2
0·1	0·2		0·4	1	2		4
0·2	0·3		0·5	2	3		5
0·2	0·4		0·7	2	4		7
0·3	0·5		0·9	3	5		9
0·3	0·6		1·1	3	6		11
0·4	0·7		1·3	4	7		13
0·4	0·8		1·4	4	8		14
0·5	0·9		1·6	5	9		16

Note: Tables 79 and 80 are extracts from Tables 137 and 138 of BS350: 'Conversion Factors and Tables': Part 2: 1962 'Detailed Conversion Tables'.

Table 81. Basic sizes of sawn softwood

Thickness (millimetres)	Width (millimetres)									Thickness (inches)
	75	100	125	150	175	200	225	250	300	
16	×	×	×	×						0.6
19	×	×	×	×						0.7
22	×	×	×	×						0.9
25	×	×	×	×	×	×	×	×	×	1.0
32	×	×	×	×	×	×	×	×	×	1.3
36	×	×	×	×						1.4
38	×	×	×	×	×	×	×			1.5
40*	×	×	×	×	×	×	×			1.6
44	×	×	×	×	×	×	×	×	×	1.7
50	×	×	×	×	×	×	×	×	×	2.0
63		×	×	×	×	×	×			2.5
75		×	×	×	×	×	×	×	×	3.0
100		×		×		×		×	×	3.9
150				×		×			×	5.9
200						×				7.9
250								×		9.8
300									×	11.8
	3.0	3.9	4.9	5.9	6.9	7.9	8.9	9.8	11.8	Equivalent size in inches
	Width (inches)									

*Note: For 40 mm thickness, designers and users should check availability.

Table 82. Basic lengths of sawn softwood

Metres (Equivalent in feet and inches)			
1.80 (5' 11")	2.40 (7' 10")	4.20 (13' 9")	5.70 (18' 8")
2.10 (6' 11")	2.70 (8' 10")	4.50 (14' 9")	6.00 (19' 8")
	3.00 (9' 10")	4.80 (15' 9")	6.30 (20' 8")
	3.30 (10' 10")	5.10 (16' 9")	
	3.60 (11' 10")	5.40 (17' 9")	
	3.90 (12' 10")		

Note: The metric dimensions given in Tables 81 and 82 are extracts from BS 4471: 1969 'Specification for Dimensions for Softwood'.

Table 83. Metric sizes, weights, lengths and breaking forces of steel wire

Standard metric size	Approx weight of 100 m	Approx length of 100 kg	Approximate breaking force for tensile strengths of			Nearest standard wire gauge (Imperial)
			350/550 MN/m ²	1 050 MN/m ²	1 550 MN/m ²	
mm diam	kg	m	newtons	newtons	newtons	S.W.G. No.
0.71	0.309	30 900	139/218	416	614	22
0.90	0.496	20 150	223/350	668	986	20
1.00	0.613	16 300	275/432	825	1 220	19
1.25	0.957	10 450	430/675	1 290	1 900	18
1.40	1.20	5 330	540/850	1 620	2 390	17
1.60	1.57	6 380	704/1 106	2 110	3 120	16
1.90	2.21	4 520	992/1 560	2 980	4 395	14½
2.00	2.45	4 080	1 100/1 730	3 300	4 870	14
2.24	3.07	3 253	1 380/2 170	4 140	6 100	13½
2.36	3.41	2 930	1 530/2 405	4 590	6 780	13
2.50	3.83	2 610	1 720/2 700	5 155	7 600	12½
2.65	4.30	2 324	1 930/3 035	5 790	8 550	12
3.00	5.51	1 814	2 475/3 890	7 420	10 950	11
3.15	6.08	1 645	2 730/4 290	8 180	12 080	10½
3.55	7.72	1 295	3 460/5 440	10 390		9
3.75	8.61	1 160	3 865/6 075	11 600		8½
4.00	9.80	1 020	4 400/6 910	13 200		8
4.50	12.41	806	5 560/8 750			7
4.75	13.82	723	6 200/9 750			6
5.00	15.32	652	6 870/10 800			6

Notes: 350/550 MN/m² = 22.7/35.6 ton/in²1 050 MN/m² = 68.0 ton/in²1 550 MN/m² = 100.4 ton/in²

1 newton = 0.224 809 pounds force

The inclusion of a particular size/tensile combination in the above table does not imply that it is available as a standard product. In the case of plastic-coated wire the above figures are valid only for the core wire.

Table 84. Unit costs in decimal currency to unit costs in £ s. d. currency

To convert *to* *multiply by*

£ and pence (decimal currency) per	pence (£. s. d. currency) per	
metre	lineal foot	73·152 0
metre	yard	219·456
metre	chain	4 828·03
kilometre	mile	386·243
square metre	square yard	200·671
hectare	acre	97·124 5
cubic metre	cubic yard	183·493
cubic metre	hoppus foot	8·652 99
cubic metre	bushel	8·728 49
litre	pint	136·383
litre	gallon	1 091·06
gramme	ounce	6 803·89
kilogramme	pound (lb)	108·862
kilogramme	hundredweight	12 192·6
tonne	ton	243·852

£ and pence (decimal currency) per	shillings (£ s. d. currency) per	
metre	lineal foot	6·096 00
metre	yard	18·288 0
metre	chain	402·336
kilometre	mile	32·186 9
square metre	square yard	16·722 5
hectare	acre	8·093 71
cubic metre	cubic yard	15·291 1
cubic metre	hoppus foot	0·721 082
cubic metre	bushel	0·727 374
litre	pint	11·365 2
litre	gallon	90·921 8
gramme	ounce	566·990
kilogramme	pound (lb)	9·071 85
kilogramme	hundredweight	1 016·05
tonne	ton	20·321 0

£ and pence (decimal currency) per metric unit	£ (£ s. d. currency) per British unit
---	--

Look up in the alphabetical index the factor for converting the British unit to the metric unit, and multiply this by the price per metric unit;

e.g. to convert £6·50 (decimal currency) per tonne to £ (£ s. d. currency) per ton.

1·016 05 (conversion factor for tons to tonnes) × £6·50 = £6·604 32 per ton.

Table 85. Unit costs in £ s. d. currency to unit costs in decimal currency.

<i>To convert</i>	<i>to</i>	<i>multiply by</i>
Pence (£ s. d. currency)	£ (decimal currency)	
per	per	
lineal foot	metre	0.013 670 2
yard	metre	0.004 556 71
chain	metre	0.000 207 124
mile	kilometre	0.002 589 05
square yard	square metre	0.004 983 29
acre	hectare	0.010 296 0
cubic yard	cubic metre	0.005 449 79
hoppus foot	cubic metre	0.115 567
bushel	cubic metre	0.114 568
pint	litre	0.007 332 33
gallon	litre	0.000 916 538
ounce	gramme	0.000 146 975
pound (lb)	kilogramme	0.009 185 92
hundredweight	kilogramme	0.000 082 017 1
ton	tonne	0.004 100 86

Shillings (£ s. d. currency)	£ (decimal currency)	
per	per	
lineal foot	metre	0.164 042
yard	metre	0.054 680 6
chain	metre	0.002 485 49
mile	kilometre	0.031 068 6
square yard	square metre	0.059 799 5
acre	hectare	0.123 553
cubic yard	cubic metre	0.065 397 5
hoppus foot	cubic metre	1.386 81
bushel	cubic metre	1.374 81
pint	litre	0.087 988 0
gallon	litre	0.010 998 4
ounce	gramme	0.001 763 70
pound (lb)	kilogramme	0.110 231
hundredweight	kilogramme	0.000 984 205
ton	tonne	0.049 210 4

£ (£ s. d. currency)	£ (decimal currency)
per British unit	per metric unit

Look up in the alphabetical index the factor for converting the metric unit to the British unit, and multiply this by the price per British unit, expressed as a decimal.

e.g. to convert £10 10s. 0d. (£ s. d. currency) per mile to £ (decimal currency) per kilometre.

0.621 371 (conversion factor for kilometres to miles) $\times$ £10.5 = £6.524 40 per kilometre.

ALPHABETICAL INDEX AND CONVERSION FACTORS

Throughout this index non-metric units can be assumed to be British unless otherwise stated. Conversion factors given to less than six significant figures are exact.

Recommended symbols and abbreviations are given; where these are absent the unit should be written in full.

<i>To convert</i>	<i>to</i>	<i>multiply by</i>	<i>table no.</i>	<i>page no.</i>
acres	hectares, ha	0.404 686	26	17
acres	square miles, mile ²	0.001 562 5		
analyses of fertilisers			70	43
angstroms, Å	nanometres, nm	0.1		
ares, a	square metres, m ²	100		
atmospheres standard, atm	newtons per square metre, N/m ²	101 325		
basic lengths of sawn softwood			82	56
basic sizes of sawn softwood			81	56
board feet, fbm			41/2	26, 27
British thermal units, Btu	kilojoules, kJ	1.055 06		
bushels	bushels US, bu	1.032 06		
bushels	cubic metres, m ³	0.036 368 7	48	30
bushels US ¹ , bu	bushels	0.968 940		
bushels US, bu	cubic metres, m ³	0.035 239 1		
Celsius or centigrade* degrees, °C	Fahrenheit degrees, °F	1.8 add 32	79	53, 54, 55
centigrade degrees, °C	see Celsius above			
centimetres, cm	inches, in	0.393 701	1 note	1
centimetres diameter, cm diam	inches girth, in girth	1.236 85	5	5
centimetres diameter, cm diam	inches quartergirth, in qg	0.309 212	4	4
chain, engineers	metres, m	30.48		
chain, Gunter's	metres, m	20.116 8	12	9
chains per acre, chain/acre	metres per hectare, m/ha	49.709 7	16	12
chains per acre, chain/acre	miles per square mile, mile/mile ²	8	16	12
cords	stacked cubic metres, stacked m ³	3.624 56		
cords per acre, cord/acre	stacked cubic metres, per hectare, stacked m ³ /ha	8.956 47		
cubic centimetres, cm ³	cubic inches, in ³	0.061 023 7		
cubic feet, ft ³	cubic metres, m ³	0.028 316 8	32	21
cubic feet, ft ³	hoppus feet, h ft	0.785 398		
cubic feet per acre, ft ³ /acre	cubic metres per hectare, m ³ /ha	0.069 972 5		
cubic feet per second, cu secs or ft ³ /s	cubic metres per hour, m ³ /h	101.941		
cubic inches, in ³	cubic centimetres, cm ³	16.387 1		
cubic inches, in ³	cubic millimetres, mm ³	16 387.1		

*Note.** The centigrade scale has been renamed Celsius scale.

		<i>Index</i>		
<i>To convert</i>	<i>to</i>	<i>multiply by</i>	<i>table no.</i>	<i>page no.</i>
cubic metres, m ³	board feet, fbm		41/2	26, 27
cubic metres, m ³	bushels	27·496 2	47	30
cubic metres, m ³	bushels US, bu	28·377 4		
cubic metres, m ³	cubic feet, ft ³	35·314 7	31	21
cubic metres, m ³	gallons, gal	219·969		
cubic metres, m ³	US gallons, US gal	264·172		
cubic metres, m ³	hoppus feet, h ft	27·736 1	33	22
cubic metres, m ³	cubic yards, yd ³	1·307 95	35	23
cubic metres per hectare, m ³ /ha	cubic feet per acre, ft ³ /acre	14·291 3		
cubic metres per hectare, m ³ /ha	cubic yards per acre, yd ³ /acre	0·529 309		
cubic metres per hectare, m ³ /ha	hoppus feet per acre, h ft/acre	11·224 4	37	24
cubic metres per tonne, m ³ /tonne	hoppus feet per ton, h ft/ton	28·181 2	39	25
cubic metres per tonne, m ³ /tonne	kilogrammes per cubic metre, kg/m ³		40 note	25
cubic metres stacked, m ³ stacked	cords	0·275 896		
cubic millimetres, mm ³	cubic inches, in ³	0·000 061 023 7		
cubic yards, yd ³	cubic metres, m ³	0·764 555	36	23
cubic yards per acre, yd ³ /acre	cubic metres per hectare, m ³ /ha	1·889 256		
cusec or cubic feet per second ft ³ /s	cubic metres per hour, m ³ /h	101·941		
decimals and fractional equivalents			71	47
degrees, angular	radians, rad	0·017 453 3	74	50
degrees, temperature			79	53, 54, 55
diameter, centimetres cm diam	inches girth, in girth	1·236 85	5	5
diameter, centimetres, cm diam	inches quarter girth, in qg	0·309 212	4	4
diameter inches, in diam	inches girth, in girth	3·141 59		
diameter of a circle	area	0·785 398 × diam ²	18	13
diameter of a circle	circumference	3·141 59	17	13
dynes, dyn	newtons, N	0·000 01		
elements, nutrient			70	43, 44, 45, 46
Fahrenheit degrees, °F	Celsius or centigrade degrees, °C	subtract 32 0·555 556	79	53, 54, 55
fathom	metres, m	1·828 8		
fathom, timber			42	27
feet, ft	metres, m	0·304 8	8	6, 7
feet, ft	yards, yd	0·333 333		
feet per second, ft/s	kilometres per hour, km/h	1·097 28		
feet per second, ft/s	knots	0·592 105		
feet per second, ft/s	international knots, kn	0·592 484		
feet per second, ft/s	miles per hour, mile/h or mph	0·681 818		
fencing wire conversions			83	57
fertiliser, analyses			70	43, 44, 45
fluid ounces, fl oz	US fluid ounces, US fl oz	0·960 759		46
fluid ounces, fl oz	millilitres, ml	28·413 0		
fluid ounces per gallon, fl oz/gal	US fluid ounces per US gallon, US fl oz/US gal	0·800 003		

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fluid ounces per gallon, fl oz/gal	millilitres per litre, ml/litre	6·249 99			
fluid ounces per square yard, fl oz/yd ²	millilitres per square metre, ml/m ²	33·981 7			
fluid ounces US, US fl oz	millilitres, ml	29·573 5			
fluid ounces US per square yard, US fl oz/yd ²	millilitres per square metre, ml/m ²	35·369 7			
fluid ounces US per US gallon, US fl oz/US gal	fluid ounces per gallon, fl oz/gal	1·250 00			
fluid ounces US per US gallon, US fl oz/US gal	millilitres per litre, ml/litre	7·812 50			
foot pound force*, ft lbf	joules, J	1·355 82			
fractions and decimal equivalents			71		47
furlongs	metres, m	201·168			
gallons, gal	cubic metres, m ³	0·004 546 09			
gallons, gal	litres, litre	4·546 09	44		29
gallons, gal	US gallons, US gal	1·200 95			
gallons per acre, gal/acre	litres per hectare, litre/ha	11·233 6	50		31
gallons per acre, gal/acre	millilitres per square metre ml/m ²	1·123 36			
gallons per acre, gal/acre	millilitres per square yard, ml/yd ²	0·939 275			
gallons per hour, gal/h	millilitres per second, ml/s	1·262 80			
gallons per minute, gal/min	litres per second, litre/s	0·075 768 0			
gallons US, US gal	gallons, gal	0·832 675			
gallons US, US gal	litres, litre	3·785 41	46		30
gallons US per acre, US gal/acre	litres per hectare, litre/ha	9·353 94			
gauge, standard wire, SWG			83		57
grammes, g	ounces, avoird. oz	0·035 274 0	57		35
grammes per cubic centimetre, g/cm ³	pounds per cubic inch, lb/in ³	0·036 127 3			
grammes per gallon, g/gal	percentage solution	0·021 996 9			
grammes per litre, g/litre	ounces per gallon, oz/gal	0·160 359	69		41
grammes per litre, g/litre	ounces per US gallon, oz/US gal	0·133 526			
grammes per litre, g/litre	percentage solution	0·1	69 note		41
grammes per litre, g/litre	pounds per gallon, lb/gal	0·010 022 4	69		41
grammes per square metre, g/m ²	kilogrammes per hectare, kg/ha	10	66 note		39
grammes per square metre, g/m ²	ounces per square yard, oz/yd ²	0·029 493 5			
grammes per square yard, g/yd ²	hundredweights per acre, cwt/acre	0·095 271 2	66		39
grammes per square yard, g/yd ²	pounds per acre, lb/acre	10·670 4	66		39
gravity, standard, gn	metres per second squared, m/s ²	9·806 65			
Gunter's chain	metres, m	20·116 8	12		9
hectares, ha	acres	2·471 05	25		17
hectares, ha	square metres, m ²	10 000			
hectares, ha	square yards, yd ²	11 959·9			

*Note**. Commonly the word "force" is omitted from the unit.

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hoppus feet, h ft	cubic feet, ft ³	1.273 24		
hoppus feet, h ft	cubic metres, m ³	0.036 054 1	34	22
hoppus feet per acre, h ft/acre	cubic metres per hectare, m ³ /ha	0.089 091 6	38	24
hoppus feet per ton, h ft/ton	cubic metres per tonne, m ³ /tonne	0.035 484 7	40	25
horsepower, hp	metric horsepower	1.013 87		
horsepower, hp	kilowatts, kW	0.745 700	78	52
hundredweights and quarters	decimal parts of a ton		62	37
hundredweights, cwt.	kilogrammes, kg	50.802 3	64 note	38
hundredweights, cwt	tonnes, tonne	0.050 802 3	64	38
hundredweights, cwt	pounds, lb	112		
hundredweights, cwt	quarters	4		
hundredweights, cwt	short, US hundredweights, sh cwt	1.12		
hundredweights, cwt	tons, ton	0.05		
hundredweights per acre, cwt/acre	grammes per square yard, g/yd ²	10.496 4	66	39
hundredweights per acre, cwt/acre	kilogrammes per hectare, kg/ha	125.535	66	39
hundredweights per acre, cwt/acre	ounces per square yard, oz/yd ²	0.370 248	66	39
inches and decimal parts of an inch, in	millimetres, mm	25.4	2	2
inches and fractions of an inch, in	millimetres, mm	25.4	3	3
inches diameter, in diam	inches girth, in girth	3.141 59		
inches girth, in girth	centimetres diameter, cm diam	0.808 507	6	5
inches girth, in girth	inches diameter, in diam	0.318 310		
inches of mercury, in Hg	newtons per square metre, N/m ²	3 386.39		
inches of rainfall, in	gallons per square yard, gal/yd ²	4.671 76		
inches of water, pressure, in H ₂ O	kilonewtons per square metre, kN/m ²	0.249 089		
inches quarter girth, in qg	centimetres diameter, cm diam	3.234 03	4	4
international knots—see knots international				
international nautical mile, n mile	kilometres, km	1.852		
joules, J	foot pound force*, ft lbf	0.737 562		
kilogrammes, kg	hundredweights, cwt	0.019 684 1		
kilogrammes, kg	pounds, lb	2.204 62	59	36
kilogrammes, kg	quarters	0.078 736 4		
kilogrammes, kg	quintals, q	0.01		
kilogrammes, kg	stones	0.157 473		
kilogrammes per cubic metre, kg/m ³	cubic metres per tonne, m ³ /tonne		68 note	40
kilogrammes per cubic metre, kg/m ³	pounds per cubic foot, lb/ft ³	0.062 428 0		
kilogrammes per cubic metre, kg/m ³	pounds per hoppus foot, lb/h ft	0.079 485 8	67	40
kilogrammes per hectare, kg/ha	grammes per square metre, g/m ²	0.1		

*Note**. Commonly the word “force” is omitted from the unit.

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kilogrammes per hectare, kg/ha	grammes per square yard, g/yd ²	0.083 612 7	66		39
kilogrammes per hectare, kg/ha	hundredweights per acre, cwt/acre	0.007 965 88	66		39
kilogrammes per hectare, kg/ha	pounds per acre, lb/acre	0.892 179	66		39
kilogrammes per litre, kg/litre	pounds per gallon, lb/gal	10.022 4			
kilogrammes per litre, kg/litre	pounds per US gallon, lb/US gal	8.345 41			
kilogrammes per metre, kg/m	pounds per foot, lb/ft	0.671 969			
kilogrammes force* per square centimetre, kgf/cm ²	kilonewtons per square metre, kN/m ²	98.066 5			
kilogrammes force* per square centimetre, kgf/cm ²	pounds force* per square inch, lbf/in ²	14.223 3	75		51
kilogrammes force* per square metre, kgf/m ²	pounds force* per square foot, lbf/ft ²	0.204 816			
kilometres, km	international nautical mile, n mile	0.539 957			
kilometres, km	miles	0.621 371	13		10
kilometres per hour, km/h	feet per second, ft/s	0.911 344			
kilometres per hour, km/h	international knots, kn	0.539 957	56		34
kilometres per hour, km/h	metres per second, m/s	0.277 778	52		33
kilometres per hour, km/h	miles per hour, mile/h	0.621 371	13 note		10
kilometres per litre, km/litre	miles per gallon, mile/gal	2.824 82			
kilonewtons per square metre, kN/m ²	inches of water, pressure	4.014 63			
kilonewtons per square metre, kN/m ²	kilogrammes force* per square centimetre, kgf/cm ²	0.010 197 2			
kilonewtons per square metre, kN/m ²	tons force* per square foot, tonf/ft ²	0.009 323 83			
kilowatts, kW	horsepower, hp	1.341 02	77		52
kilowatt hours, kWh	megajoules, MJ	3.6			
knots	feet per second, ft/s	1.688 89			
knots	miles per hour, mile/h	1.151 52			
knots international, kn	feet per second, ft/s	1.687 81			
knots international, kn	kilometres per hour, km/h	1.852	55		34
knots international, kn	metres per second, m/s	0.514 444	53		34
knots international, kn	miles per hour, mile/h	1.150 78			
lengths of sawn softwood			82		56
liming materials			70		45
links	metres, m	0.201 168			
litres, litre†	gallons, gal	0.219 969	43		29
litres, litre	US gallons, US gal	0.264 172	45		30
litres, litre	pints, pt	1.759 76			
litres, litre	quarts, qt	0.879 880			
litres, litre	US liquid pints, US liq pt	2.113 38			
litres per hectare, litre/ha	gallons per acre, gal/acre	0.089 018 4	49		31
litres per hectare, litre/ha	millilitres per square metre, ml/m ²	0.1			
litres per hectare, litre/ha	millilitres per square yard, ml/yd ²	0.083 612 7			

Notes. *Commonly the word force is omitted from the unit.

†Litre. The litre in this booklet is taken to be the cubic decimetre as recommended by the CGPM in 1964, and not the litre recognised by the Weights and Measures Act 1963.

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litres per hectare, litre/ha	US gallons per acre, US gal/acre	0.106 907		
litres per second, litre/s	gallons per minute, gal/min	13.198 2		
load, timber			41	26
megagrammes per cubic metre, Mg/m ³	pounds per cubic inch, lb/in ³	0.036 127 3		
megajoules, MJ	kilowatt hours, kWh	0.277 778		
meganeutons per square metre, MN/m ²	tons force* per square inch, ton f/in ²	0.064 749 0		
metres, m	chains, engineers	0.032 808		
metres, m	chains, Gunter's	0.049 709 7	11	9
metres, m	feet, ft	3.280 84	7	6
metres, m	furlongs	0.004 970 97		
metres, m	links	4.970 97		
metres, m	yards, yd	1.093 61	9	8
metres per hectare, m/ha	chains per acre, chain/acre	0.020 116 8	16	12
metres per hectare, m/ha	kilometres per square kilo- metre, km/km ²	0.1	16 note	12
metres per hectare, m/ha	miles per square mile, mile/mile ²	0.160 934	16	12
metres per hectare, m/ha	yards per acre, yd/acre	0.442 569	16	12
metres per second, m/s	feet per second, ft/s	3.280 84		
metres per second, m/s	international knots, kn	1.943 84	54	34
metres per second, m/s	kilometres per hour, km/h	3.6	51	33
metric wire sizes			83	57
micrometres, µm	microns, µ	1		
microns, µ	micrometres, µm	1		
miles	international nautical miles, n mile	0.868 976		
miles	kilometres, km	1.609 34	14	10
miles per gallon, mile/gal	kilometres per litre, km/litre	0.354 006		
miles per hour, mile/h	feet per second, ft/s	1.466 67		
miles per hour, mile/h	kilometres per hour, km/h	1.609 34	14 note	10
miles per hour, mile/h	international knots, kn	0.868 976		
miles per hour, mile/h	knots	0.868 421		
miles per square mile, mile/mile ²	chains per acre, chain/acre	0.125	16	12
miles per square mile, mile/mile ²	metres per hectare, m/ha	6.213 71	16	12
miles per square mile, mile/mile ²	yards per acre, yd/acre	2.75	16	12
millibars, mb or mbar	newtons per square metre, N/m ²	100		
milli-inches, mil or thou	micrometres, µm	25.4		
millilitres, ml	fluid ounces, fl oz	0.035 196 1		
millilitres, ml	US fluid ounces, US fl oz	0.033 814 0		
millilitres per litre, ml/litre	fluid ounces per gallon, fl oz/gal	0.160 000		
millilitres per litre, ml/litre	US fluid ounces per US gallon, US fl oz/US gal	0.128 000		

*Note**. Commonly the word "force" is omitted from the unit.

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millilitres per second, ml/s	gallons per minute, gal/min	0.013 198 1			
millilitres per square metre, ml/m ²	fluid ounces per square yard, fl oz/yd ²	0.029 427 6			
millilitres per square metre, ml/m ²	US fluid ounces per square yard, US fl oz/yd ²	0.028 272 8			
millilitres per square yard, ml/yd ²	litres per hectare, litre/ha	11.959 9			
millimetres, mm	inches, in	0.039 370 1	1		1
millimetres of rainfall	litres per hectare, litre/ha	10 000			
millimicrons, mμ	nanometres, nm	1			
mils, thou	micrometres, μm	25.4			
nanometres, nm	millimicrons, mμ	1			
newtons, N	pounds force*, lbf	0.224 809			
newtons per square metre, N/m ²	atmospheres, standard atm	0.000 009 869 23			
newtons per square metre, N/m ²	inches of mercury, in Hg	0.000 295 300			
newtons per square metre, N/m ²	millibars, mb or mbar	0.01			
newtons per square metre, N/m ²	pounds force* per square inch, lbf/in ²	0.000 145 038			
newtons per square metre, N/m ²	pounds force* per square foot, lbf/ft ²	0.020 885 4			
ounces, avoird. oz	grammes, g	28.349 5	58		35
ounces, avoird. oz	pounds, lb	0.062 5			
ounces per gallon, oz/gal	grammes per litre, g/litre	6.236 02	69		41
ounces per gallon, oz/gal	percentage solution	0.625	69 note		41
ounces per US gallon, oz/US gal	grammes per litre, g/litre	7.489 15			
ounces per square yard, oz/yd ²	grammes per square metre, g/m ²	33.905 7			
ounces per square yard, oz/yd ²	hundredweights per acre, cwt/acre	2.700 89	66		39
ounces per square yard, oz/yd ²	pounds per acre, lb/acre	302.5	66		39
ounces per square yard, oz/yd ²	tons per square mile, ton/mile ²	86.428 6			
pecks	litres, litre	9.092 18			
percentage solution			69 note		41
pints, pt	gallons, gal	0.125			
pints, pt	litres, litre	0.568 261			
pints, pt	US liquid pints, US liq pt	1.200 95			
pints US liquid, US liq pt	litres, litre	0.473 176			
pints US liquid, US liq pt	pints, pt	0.832 675			
pit-prop conversions			42		27
pounds, lb	hundredweights, cwt	0.008 928 57			
pounds, lb	kilogrammes, kg	0.453 592	60		36
pounds, lb	ounces, oz	16			
pounds, lb	quarters	0.035 714 3			
pounds, lb	stones	0.071 428 6			
pounds per acre, lb/acre	grammes per square yard, g/yd ²	0.093 717 4	66		39
pounds per acre, lb/acre	kilogrammes per hectare, kg/ha	1.120 85	66		39

*Note**. Commonly the word "force" is omitted from the unit.

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pounds per acre, lb/acre	ounces per square yard, oz/yd ²	0.003 305 79	66	39	
pounds per cubic foot, lb/ft ³	kilogrammes per cubic metre, kg/m ³	16.018 5			
pounds per cubic inch, lb/in ³	megagrammes per cubic metre, Mg/m ³	27.679 9			
pounds per foot, lb/ft	kilogrammes per metre, kg/m	1.488 16			
pounds per gallon, lb/gal	grammes per litre, g/litre	99.776 4	69	41	
pounds per gallon, lb/gal	percentage solution	10	69 note	41	
pounds per US gallon, lb/US gal	kilogrammes per litre, kg/litre	0.119 826			
pounds per hoppus feet, lb/h ft	kilogrammes per cubic metre, kg/m ³	12.580 9	68	40	
pounds per square yard, lb/yd ²	kilogrammes per square metre, kg/m ²	0.542 492			
pounds per yard, lb/yd	kilogrammes per metre, kg/m	0.496 055			
pounds force*, lbf	newtons, N	4.448 22			
pounds force* per square foot, lbf/ft ²	kilogrammes force* per square metre, kgf/m ²	4.882 43			
pounds force* per square foot, lbf/ft ²	newtons per square metre, N/m ²	47.880 3			
pounds force* per square inch, lbf/in ²	kilogrammes force* per square centimetre, kgf/cm ²	0.070 307 0	76	51	
pounds force* per square inch, lbf/in ²	millibars, mb or mbar	68.947 6			
pounds force* per square inch, lbf/in ²	newtons per square metre, N/m ²	6 894.76			
pulgadas, timber			42	27	
pulpwood conversions			42	27	
quarts, qt	litres, litre	1.136 52			
quarts, qt	US liquid quarts, US liq qt	1.200 95			
quarts US liquid, US liq qt	quarts, qt	0.832 675			
quarter girth, or hoppus measure	true measure	1.273 24			
quarters	hundredweights, cwt	0.25			
quarters	kilogrammes, kg	12.700 6			
quarters	pounds, lb	28			
quarters	tonnes, tonne	0.012 700 6	65	38	
quintals, q	kilogrammes, kg	100			
radians, rad	degrees, . . . °	57.295 8	74	50	
rainfall inches,	gallons per acre, gal/acre	22.622			
rainfall inches,	gallons per square yard, gal/yd ²	4.674 08			
rainfall millimetres,	litres per hectare, litre/ha	10 000	49 note	31	
raummeter, timber			42 note	27	
ring width			15	11	
rings per 10 mm, per 25 mm, per 1 in			15	11	
roundwood conversions			42	27	
sawn softwood basic lengths			82	56	
sawn softwood basic sizes			81	56	
sawn wood conversions			41	26	
sixtieths	decimals		72	48	
sixty-fourths	decimals		73	49	

*Note**. Commonly the word “force” is omitted from the unit.

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slope equivalents			74	50
short US hundredweights, US sh cwt	hundredweights, cwt	0.892 857		
short US tons, US sh ton	tonnes, tonne	0.907 185	68 note	40
specific gravity				
square centimetres, cm ²	square feet, ft ²	0.001 076 39		
square centimetres, cm ²	square inches, in ²	0.155 000		
square feet, ft ²	square feet quarter girth, ft ² qg	0.785 398		
square feet, ft ²	square inches, in ²	144		
square feet, ft ²	square metres, m ²	0.092 903 0	20	14
square feet, ft ²	square yards, yd ²	0.111 111		
square feet per acre, ft ² /acre	square metres per hectare, m ² /ha	0.229 568		
square feet quarter girth, ft ² qg	square centimetres, cm ²	1 182.88		
square feet quarter girth, ft ² qg	square feet, ft ²	1.273 24	22	15
square feet quarter girth, ft ² qg	square metres, m ²	0.118 288		
square feet quarter girth per acre, ft ² qg/acre	square metres per hectare, m ² /ha	0.292 296	30	19
square inches, in ²	square centimetres, cm ²	6.451 6		
square inches, in ²	square feet, ft ²	0.006 944 44		
square inches, in ²	square metres, m ²	0.000 645 16		
square inches, in ²	square millimetres, mm ²	645.16		
square kilometres, km ²	acres	247.105 4	27	18
square kilometres, km ²	square miles, mile ²	0.386 102		
square metres, m ²	ares, a	0.01		
square metres, m ²	hectares, ha	0.000 1		
square metres, m ²	square feet, ft ²	10.763 9	19	14
square metres, m ²	square feet quarter girth, ft ² qg	8.453 96	21	15
square metres, m ²	square inches, in ²	1 550.00		
square metres, m ²	square yards, yd ²	1.195 99	23	16
square metres per hectare, m ² /ha	square feet per acre, ft ² /acre	4.356 00		
square metres per hectare, m ² /ha	square feet quarter girth per acre, ft ² qg/acre	3.421 19	29	19
square metres per litre, m ² /litre	square yards per gallon, yd ² /gal	5.437 08		
square miles, mile ²	acres	640		
square miles, mile ²	hectares, ha	258.999	28 note	18
square miles, mile ²	square kilometres, km ²	2.589 99	28	18
square millimetres, mm ²	square inches, in ²	0.001 550 00		
square yards, yd ²	hectares, ha	0.000 083 612 7	24	16
square yards, yd ²	square metres, m ²	0.836 127		
square yards per gallon, yd ² /gal	square metres per litre, m ² /litre	0.183 922		
stacked cubic metres, stacked m ³	cords	0.275 896		
stacked cubic metres per hectare, stacked m ³ /ha	cords per acre, cord/acre	0.111 651		
standard atmospheres, atm	newtons per square metre, N/m ²	101 325		

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standard gravity, gn	metres per second squared, m/s ²	9.806 65		
standard, timber			41	26
standard wire gauge, SWG			83	57
stems per acre	stems per hectare, stems/ha	2.471 05	25 note	17
stems per hectare, stems/ha	stems per acre	0.404 686	26 note	17
stère			42 note	27
stones	kilogrammes, kg	6.350 29		
stones	pounds, lb	14		
super feet, timber			42	27
temperature, degrees			79	53, 54, 55
temperature interval			80	55
therm	megajoules, MJ	105.506		
thou	micrometres, µm	25.4		
tons	hundredweights, cwt	20		
tons	tonnes, tonne	1.016 05	63	38
ton miles	tonnes kilometres, tonne km	1.635 17		
tons per acre, ton/acre	tonnes per hectare, tonne/ha	2.510 71		
tons per cubic yard, ton/yd ³	tonnes per cubic metre, tonne/m ³	1.328 94		
tons per mile, ton/mile	tonnes per kilometre, tonne/km	0.631 342		
tons per square mile, ton/mile ²	tonnes per square kilometre, tonne/km ²	0.392 298		
tons, short US, US sh ton	tonnes, tonne	0.907 185		
tons force* per square foot, tonf/ft ²	kilogrammes force* per square centimetre, kgf/cm ²	1.093 66		
tons force* per square foot, tonf/ft ²	kilonewtons per square metre, kN/m ²	107.252		
tons force* per square inch, tonf/in ²	kilogrammes force* per square centimetre, kgf/cm ²	157.488		
tons force* per square inch, tonf/in ²	meganeutons per square metre, MN/m ²	15.444 3		
tonnes, tonne	hundredweights, cwt	19.684 1		
tonnes, tonne	tons	0.984 207	61	37
tonnes, tonne	US short tons, US sh ton	1.102 31		
tonne kilometres, tonne km	ton miles	0.611 558		
tonnes per cubic metre, tonne/m ³	tons per cubic yard, ton/yd ³	0.752 479		
tonnes per hectare, tonne/ha	tons per acre, ton/acre	0.398 295		
tonnes per kilometre, tonne/km	tons per mile, ton/mile	1.583 93		
true measure	quarter girth or hoppus measure	0.785 398		
unit costs, £ s. d. currency	decimal currency		85	59
unit costs, decimal currency	£ s. d. currency		84	58
wire sizes			83	57
yards, yd	feet, ft	3		

*Note**. Commonly the word "force" is omitted from the unit.

				<i>Index</i>
<i>To convert</i>	<i>to</i>	<i>multiply by</i>	<i>table no.</i>	<i>page no.</i>
yards, yd	metres, m	0·914 4	10	8
yards per acre, yd/acre	metres per hectare, m/ha	2·259 53	16	12
yards per acre, yd/acre	miles per square mile, mile/mile ²	0·363 636	16	12
yards per pound, yd/lb	metres per kilogramme, m/kg	2·015 91		

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- BS 3763 : 1964: *The International System (SI) Units*.
BS 350 *Conversion Factors and Tables*: Part 1 1959 Basis of Tables. Conversion Factors.
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- Changing to the Metric System*, National Physical Laboratory 1969.
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Measure for Measure by P. J. Rennie, Dept. of Forestry, Canada, 1962.

Addresses:

Metrication Board,
22 Kingsway,
London WC2.

Decimal Currency Board,
Standard House,
27 Northumberland Avenue,
London WC2.

British Standards Institution,
2 Park Street,
London W1Y 4AA.

Forestry Commission,
25 Savile Row,
London W1X 2AY.

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