

COMPARISON IN YIELDS OF SITKA AND NORWAY SPRUCE

By P. M. Joyce

RECENTLY the writer had occasion to carry out an assessment of growing stock at Castlepollard, Co. Westmeath. The operation included the mensuration of a conifer stand containing plots of Sitka and Norway Spruce. While comparison in respective yields of those species usually indicates results in favour of Sitka Spruce, nevertheless, so overwhelmingly convincing were the figures obtained that they are deemed worthy of recording.

The soil type is uniform throughout the area which because of its low-lying situation is subject to occasional late frosts, the latter atmospheric condition being, if anything, to the detriment of the Sitka Spruce.

The data is based on the mensuration of one-tenth acre plots details of which are set out hereunder.

SITKA SPRUCE	NORWAY SPRUCE
Age 30 years	Age 30 years
Number of stems per acre—280	Number of stems per acre—290
Mean Q.G. B.H. 9"	Mean Q.G. B.H. 7¼"
Mean Height (total)—75 ft.	Mean Height (total)—62 ft.
Mean tree—19.7 cu. ft. O.B.	Mean tree 11.1 cu. ft. O.B.
Volume per acre—5516 cu. ft. O.B.	Vol. per acre—3219 cu. ft. O.B.
Volume per acre—4966 cu. ft. U.B.	Vol. per acre—2898 cu. ft. U.B.

The most cogent comparisons to be noted from a perusal of the above data are the figures contained under the headings "volume per acre" for both species. It will be observed that the mean annual increment of Sitka Spruce is practically 72% greater than that of the Norway Spruce.

A comparison between figures set out above and those tabled in the Forestry Commission Yield Tables for Quality Class 1, Sitka and Norway Spruce, shown hereunder, will be of interest.

SITKA SPRUCE

Age 30 years
Number of stems per acre—505
Mean Q.G. B.H. 7"
Mean height—69 ft.
Mean tree—11.5 cu. ft. O.B.
Vol. per acre—5,800 cu. ft. O.B.
Vol. per acre—5,220 cu. ft. U.B.

NORWAY SPRUCE

Age 30 years
Number of stems per acre—710
Mean Q.G. B.H.—5 $\frac{3}{4}$ "
Mean height—51 ft.
Mean tree—5 cu. ft. O.B.
Vol. Per acre—3,500 cu. ft. O.B.
Vol. per acre—3,150 cu. ft. U.B.

At first glance it would appear that the yield per acre for both species at Castlepollard compare unfavourably with those shown in the latter tables. It should, however, be borne in mind that the number of stems per acre is, due to a heavy thinning programme, considerably lower than that shown in the Forestry Commission Yield Tables. This of course means a much greater volume per tree, a most desirable result, when one considers that the Sitka Spruce at Castlepollard is mainly of boxwood dimensions, in contrast to the Yield Tables stand which would be predominantly pulpwood and therefore in a much lower price category.

Note : Since this note was received for publication a " Revised Yield Tables for Conifers in Great Britain " has been published by the Forestry Commission. These tables have been constructed entirely from permanent sample plot records and accord more closely with current practice in that they assume a heavier thinning regime than the old tables. Figures from the revised table for comparison with Mr. Joyce's figures are

SITKA SPRUCE

Age 31
Number of stems per acre—245
Mean Q.G. B.H.—9"
Mean Height—75 $\frac{1}{2}$ ft.
Vol. per acre—4890 cu. ft O.B.

NORWAY SPRUCE

Age 30
Number of stems per acre—560
Mean Q.G. B.H.—6"
Mean height—50 ft.
Vol. per acre—3,400 cu. ft. O.B.