

LETTER TO THE EDITOR

DESIGN OF A NEW WEIGHING LYSIMETER FOR MEASURING WATER USE BY INDIVIDUAL TREES

by H. H. Gifford, D. Whitehead, R. S. Thomas and D. S. Jackson
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Sir,

We apologise for two errors in our article which mean that the absolute values of data given in Fig. 4, 5, 6, and 7 are incorrect.

The first is a scaling factor in that the ground area occupied by the tree crown in Fig. 4 and 5 was 21.0 m² instead of the 13.12 m² given in the text on p. 452. Evaporation rates on Fig. 4 and 5 should be multiplied by 0.62.

The second error is that plastic collecting covers were not fitted on to the lysimeter trees when the data in Fig. 6 and 7 were collected, resulting in a substantial under-measurement of throughfall on the lysimeter tree and an exaggeration of interception losses. The data in Fig. 6 and 7 should be ignored.

Interception losses from the lysimeter trees have since been calculated for different dates and results are presented in Table 1. Rates of evaporation from wet canopies of 0.06 to 0.33 mm/h shown are much less than those reported in our article and within the range of those reported for other conifers (McNaughton & Jarvis 1983, Table II). Our previous result showing very high rates of evaporation is regretted.

TABLE 1—Average rates of evaporation from the wet canopy during three rain storms. Results are means from three trees in weighing lysimeters

Date	Gross rainfall (mm)	Net rainfall* (mm)	Mean rate of evaporation (mm/h)
16 March 1983	9.6	7.6	0.33
19 May 1983	4.4	3.8	0.06
2 June 1983	5.6	5.0	0.12

* Net rainfall = cumulative evaporation minus gross rainfall from weighing lysimeters

Our article was written essentially to show the design of the new weighing lysimeters and examples. Preparation of data for publication is now under way in separate articles. However, we regret any inconvenience to readers who may have been misled by our incorrect results.

We are most grateful to Dr A. J. Pearce for bringing the error in the analysis of interception loss to our attention.

REFERENCE

McNAUGHTON, K. G.; JARVIS, P. G. 1983: Predicting effects of vegetation changes on transpiration and evaporation. Pp. 1-47 in Kozlowski, T. T. (Ed.) "Water Deficits and Plant Growth", Volume 7. Academic Press, New York.

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