A NOTE ON SPACING BETWEEN CONTOUR LINES

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In a recent issue of HARVEST (5 (3)) there is an article on marking out contour lines in the field which explains how to use an instrument called a land-level.

This note contains some extra information on the spacing between contour lines which was treated very simply in the article.

The information in the article applies to hillsides where the slope is very even. However, this is not always the case. There are often parts of a hillside which are steep and others which are much flatter.

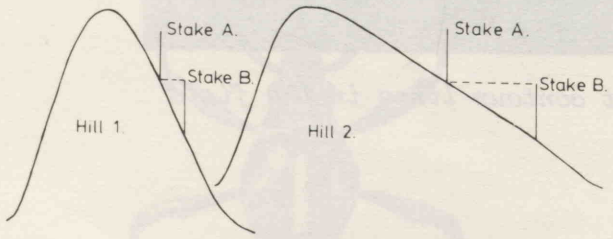

Diagram 1

If we look at Hills 1 and 2 in Diagram 1 we can see that, on both of them, Stake A is higher than Stake B. In fact, on both of the hills, the bottom of Stake A is level with the top of Stake B. This means that the difference in height between the stakes is the same in both case. Because Hill 1 is steeper than Hill 2, however, Stake B is nearer to Stake A on Hill 1 than it is on Hill 2.

If the stakes were being used to mark out contour lines as described in the article then the lines would also be closer together or further apart depending on the slope. This is shown in Diagram 2.

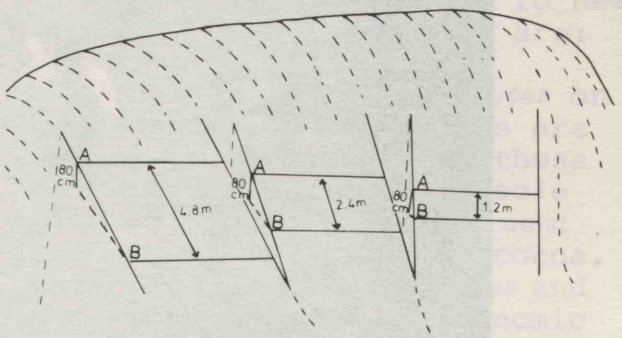

Diagram 2

Line A is always 80 cm higher than Line B but the distance, down the slope, between the two lines depends on how steep the land is. Suppose you started to mark out lines for coffee. First, you put in the stakes for Line A. Now you measure down 2.4 m from a point on Line A and start Line B from that position. You might start Line B on a part of the hill which has a medium slope like the part in the middle of Diagram 1.

As you move from this first point on Line B, marking out the line with stakes, you might come to a steeper part of the

hill like, that on the right of the diagram. Here, although the difference in height between the two lines is still the same as before, Line B will be closer to line A.

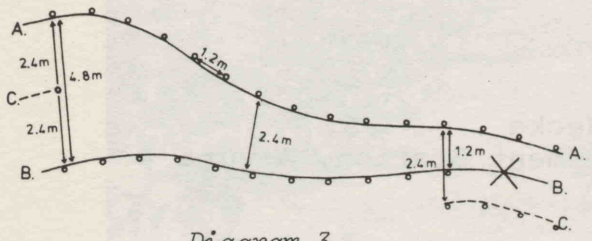

Diagram 3

If you come to a flatter part of the hill, like that shown on the left of Diagram 1, Line B will be further away from Line A.

From above, the linew will look like those in Diagram 3. To keep the coffee trees properly spaced when the land flattens, you should put in an extra line, C, between Lines A and B when Line B gets twice as far away from Line A as it should. The new line, C, is started in this example when Line B is 4.8 m away from Line A.

If, on the other hand, Line B gets too close to Line A (i.e. less than half the correct spacing between the trees), then it should be abandoned and a new Line B should be started at the right spacing.

Using the land-level to mark out contour lines in the field
Photo: J.W.J. Wankowski