

## CHAPTER 3. SEEDBED PREPARATION

### 3.3 TECHNIQUES OF PLOUGHING

#### 3.3.3. FIELD LAY-OUT AND REVERSIBLE PLOUGHING METHODS

##### USE OF THE REVERSIBLE PLOUGH

The advantage of a reversible plough is that the soil may always be thrown to the same side (Fig.1). In this way, neither opening crowns nor closing furrows are left in the field and the surface may be kept level much more easily.

The reversible plough is useful for fields which need to be kept perfectly flat for irrigation purposes. It also has advantages in sloping fields where contour ploughing is practised.

Because the soil is all thrown to the same side, it is necessary to throw the soil back to the other side when next the field is ploughed. On sloping land, it is normally preferable to always throw the soil uphill to counteract any tendency of soil erosion. For only slight slopes, the soil should be thrown downhill one year in every two or three years, depending upon the particular field.

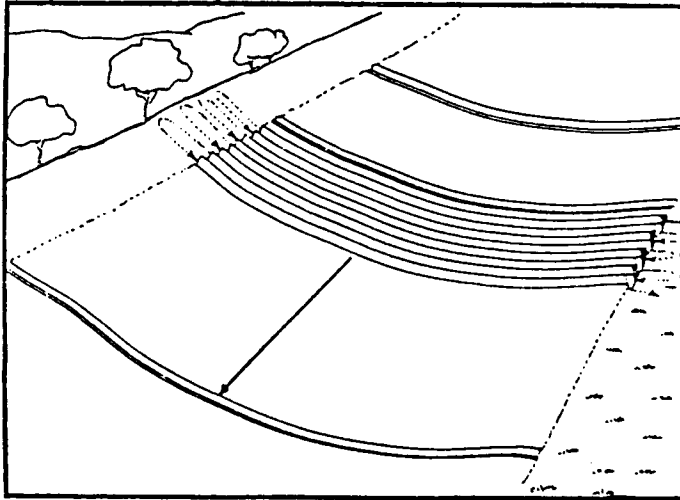


*Fig. 1 A reversible plough body fitted to a "Simone" multipurpose toolbar. Notice the two landsides and heels.*

*Photo: J.E.Ashburner*

### CONTOUR PLOUGHING WITH A REVERSIBLE PLOUGH

Where the contours or field borders are parallel, ploughing commences along the direction of one of the borders and works right across the field to the other limit (Fig.2). This is very easy to arrange and no marking out of the field is necessary.



*Fig. 2 For parallel contours, normally start at the upper border and work steadily across the field until the whole strip is ploughed.*

*Source: AETC, 1986*

### LAY-OUT OF IRREGULAR FIELDS FOR CONTOUR PLOUGHING

When the contours are not parallel and the field is irregular, first measure out the position of the centre across the shortest distance between the contours (Fig.3).

Now scratch a mark with the plough for the parallel strip "B". This is done using a string between the ploughman and a person walking along the lower contour to guide the plough.

Start ploughing along the top contour, throwing the soil uphill. Gradually the top part of the field "A" is ploughed up to the scratch mark just placed (Fig.4). Finish by ploughing the parallel strip "B" by working from the upper limit towards the lower contour.

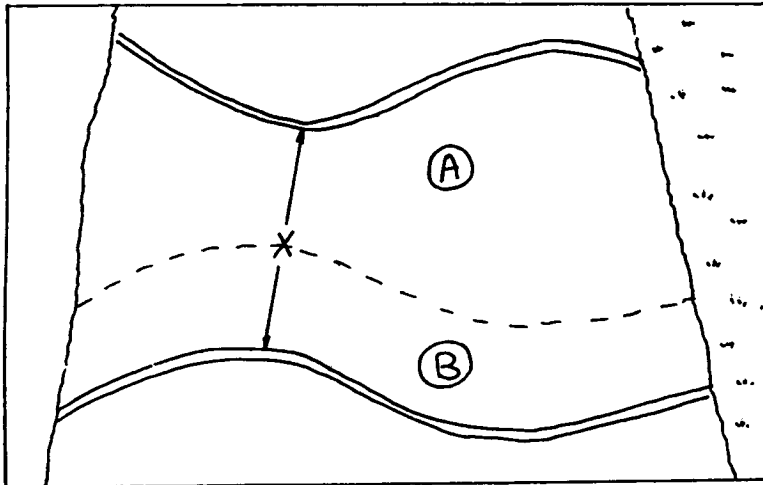


Fig. 3 For an irregular field, mark off the middle point of the shortest distance between the borders. Scratch a mark with the plough, parallel to the lower contour to form the strip "B".

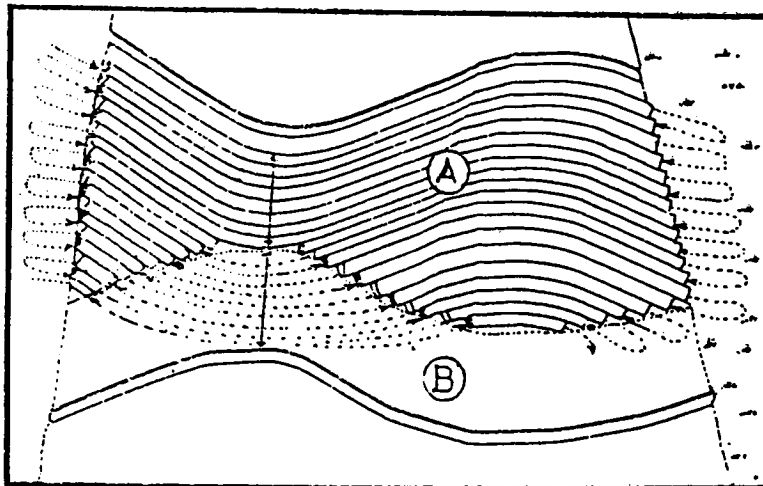


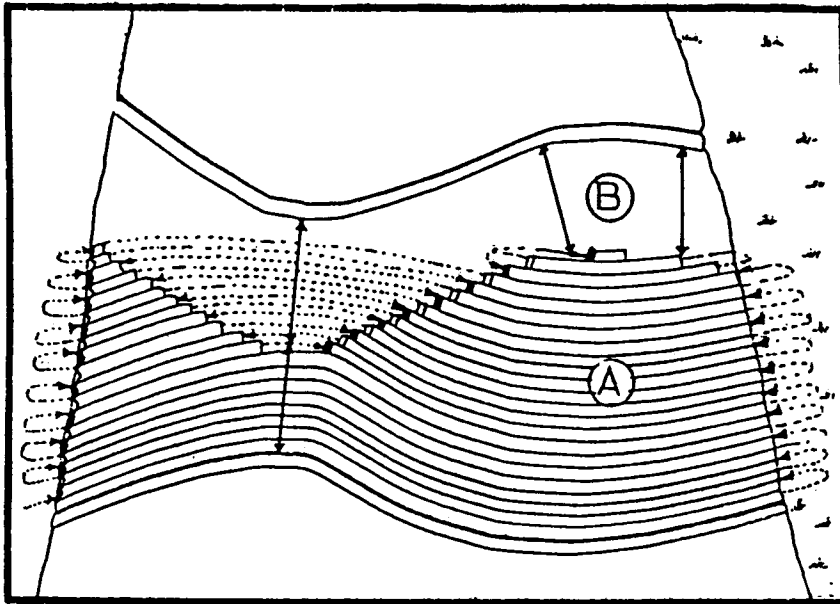
Fig. 4 Plough the upper section "A" by starting along the top contour and continuing as far as the scratch mark of the lower strip "B". Source for Figs.3 & 4: AETC, 1986

**OCCASIONAL DOWNHILL PLOUGHING ON SLOPING LAND**

As explained above, sloping land should be ploughed occasionally, by throwing the soil downhill. Flat fields should be ploughed in different directions each year.

The irregular field just described for uphill ploughing, needs to be marked out with the parallel strip "B" parallel to the upper border for downhill ploughing (Fig.5). The same method is adopted to mark the centre of the field and to scratch the limit for the parallel strip "B". Mark with the plough and use a string as before.

The downhill irregular section "A" is first ploughed, starting from the bottom and throwing the soil downhill. The parallel strip "B" is ploughed last.



*Fig. 5 For downhill ploughing, mark out the parallel strip "B" but following the upper contour. Plough section "A" first and then complete the strip "B".*

*Source: AETC, 1986*