

## **CHAPTER 3. SEEDBED PREPARATION**

### **3.3 TECHNIQUES OF PLOUGHING**

#### **3.3.2. FIELD LAY-OUT AND CONTOUR PLOUGHING METHODS**

##### **CONTOUR PLOUGHING**

Fields with slopes more than 2 % should always be ploughed along the contours. Normally, protective bunds should already have been established within the field and these must be maintained as protective structures and left untouched by the plough.

If bunds are not yet constructed, a comprehensive conservation plan should be prepared and appropriate measures taken to build the bunds, cut-off ditches and the grass waterways necessary to prevent crop and soil loss during the expected rainy season storms. Some guidelines for designing and construction of conservation structures are presented in a later Module.

##### **FIELD LAY-OUT FOR CONTOUR PLOUGHING**

Normally the contours at the top and bottom of the field or plot, will be both curved and non-parallel. The field is ploughed using the gathering pattern one year, and the casting pattern the following year. This will maintain the soil profile as desired.

##### **CASTING PATTERN OF CONTOUR PLOUGHING**

Measure across the field at either the widest or the narrowest parts and mark a line along the centre of the field (Fig.1). A central strip "B" will be ploughed later and will allow the animals to turn.

The parts marked "A" are ploughed first, following the contours at the top and bottom of the field (Fig.2) and working towards the centre of the field. This is the "casting" pattern.

Finally, the central strip "B" is ploughed, again using the casting pattern (Fig.3). In this way the whole field is ploughed with no unnecessary trampling and with no parts left untouched.

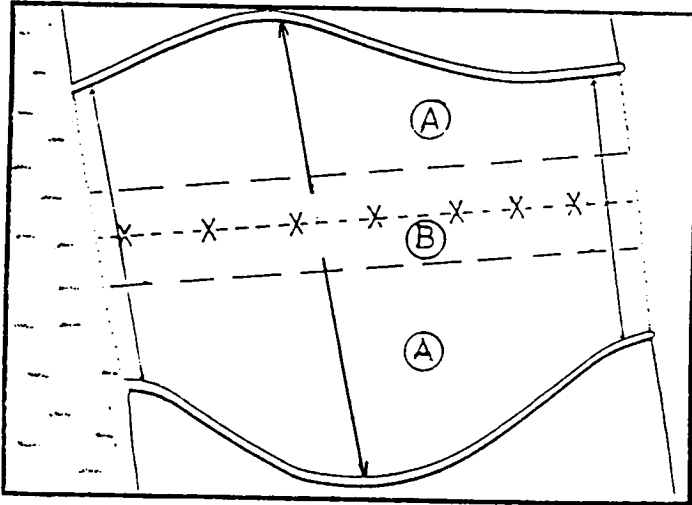


Fig. 1 Measure across the narrowest or widest parts of the field and mark out the central line "X X X". A strip "B" is left for the animals to turn while ploughing "A"

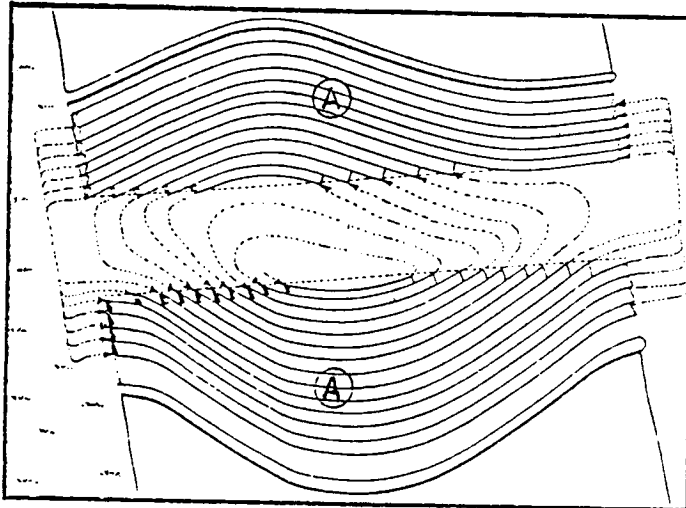
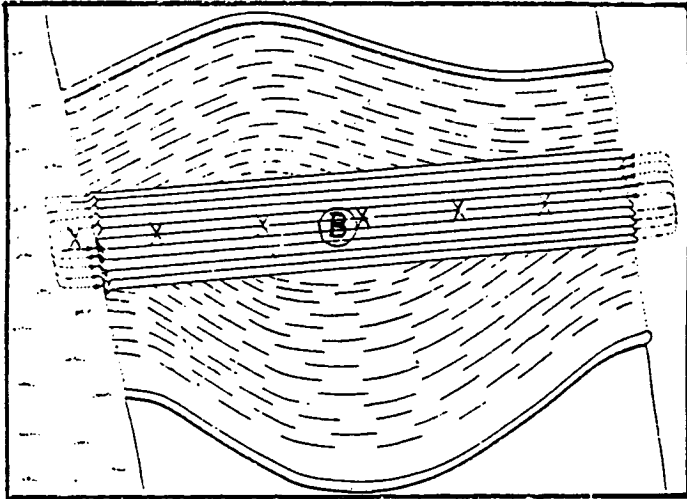


Fig. 2 Start "casting" along the top and bottom borders of the field until the parts marked "A" are completed.

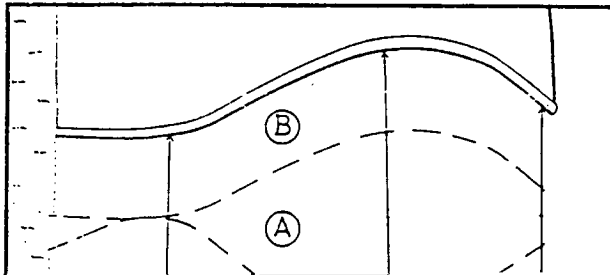
Source for Figs.1 & 2: AETC,1986



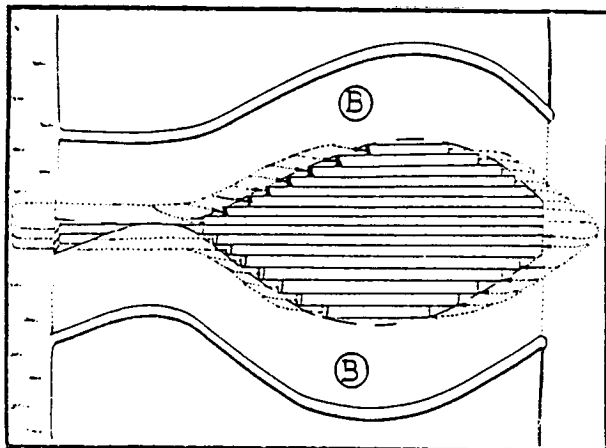
*Fig. 3 The central strip "B" is ploughed last, again using a "casting" pattern by working from the outside of the strip towards the centre.*

#### **GATHERING PATTERN OF CONTOUR PLOUGHING**

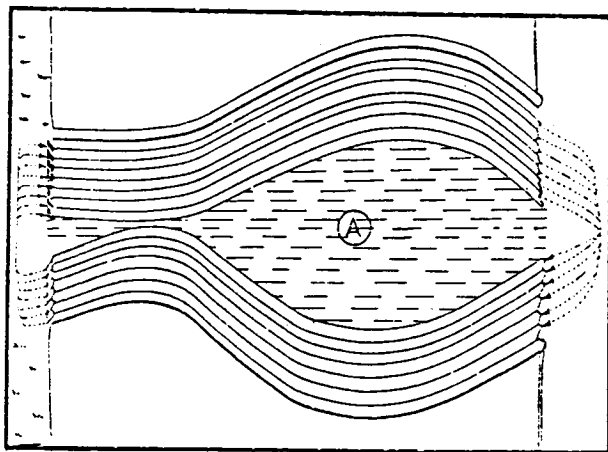
Measure across the field at the narrowest place and mark off the centre. Now scratch a mark with the plough for the parallel strips "B" (Fig.4). This is done using a string between the ploughman and a person walking along the contours to guide the plough.



Plough the central section "A" first by starting across the centre and "gathering" around the crown (Fig.5). Then the parallel strips "B" are ploughed from the edges of the ploughed centre "A" towards the borders of the field (Fig.6). This is also a "gathering" pattern.



*Fig. 5 Plough the central section "A" by "gathering" around a crown ploughed down the middle of the section.*



*Fig. 6 Finally plough the border strips by "gathering" towards the contours.*

*Source for Figs.5 & 6: AETC, 1986*