

3.2.6. Contour farming.

3.2.6.1. Description.

Tilling following the contour can be implemented depending on slope steepness, regularity of terrain and layout of the plantation. In orchards, whose trees form a hedgerow contour farming is only possible when the trees are planted on contour (see section 3.2.2.). The second, and major, limitation for contour farming is slope steepness: on steeper slope the use of machinery is restricted for the risk of turning over. On steep slopes contour cultivation is also less effective for reducing soil erosion. For contour farming many of the criteria described in section 3.2.2. [contour planting](#) also apply. Contour farming is most effective on moderate slopes on uniform terrain, see Table 3.2.6.1.

Table 3.2.6.1. Best conditions for use of contour farming.

Feature	Reason
Most effective on slopes between 2 and 10%.	Above 10% slope traffic is quite complicated and below 2% it is not usually necessary.
Fields that are cut by gullies or have strongly undulating topography are not well suited for this practice.	It is complicated to till following the contour and gully erosion is not controlled.

The effectiveness of this practice depends on maintaining ridges and furrows that can transport runoff water safely without overtopping or being eroded. For this reason, their effectiveness depends on the factors indicated in Table 3.2.6.2.



Table 3.2.6.2. Key factors defining effectiveness of contour farming.

Factor	Comment
Ridge height and spacing.	Large enough to accommodate expected runoff. Ridge height not less than 5 or 2.5 cm depending on ridge minimum spacing, more or less than 25 cm respectively.
Minimum row grade.	At less 0.2% to prevent waterlogging.
Maximum row grade.	2% of half of the critical slope steepness for rill erosion if this is small than 2%.
Maximum row length.	It is most effective on slopes between 30 to 120 m. Longer slopes tend to concentrate too much runoff to be safely delivered.
Row outlets.	The rows need to deliver runoff to an area protected against erosion by concentrated flow.

3.2.6.2. Images of different examples contour farming.



Figure 3.2.6.1. Spaced ridges on contour in S. Spain (Photo J.A. Gómez).





Figure 3.2.6.2. Reduced tillage on contour in a traditional olive orchard in S. Spain (Photo J.A. Gómez).



Figure 3.2.6.3. Contour shrubbery buffer strips in the black soil region of northeastern China (Photo L. Meng).

3.2.6.3. Selected References.

NRCS, 2007. National Resource Conservation Services. Natural Resources Conservation Service. Conservation Practice Standard Contour Farming #330. Available at https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_026017.pdf

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