

# Contour Farming – Fostering Sustainability With Ancient Techniques

Alex Fielder | Utah State University

UtahStateUniversity®

## A Brief History

Since the early days of civilization, humans have learned to work with the land out of both respect and convenience. A good example of this is the use of contour farming, dating back to at least 3000 BC in the Kurdistan Region of Iraq (Forti et al.), which is an area considered the cradle of civilization. Contour farming is the practice of following the elevation curve of a sloped hillside rather than going in a straight line across elevation changes. This was presumably done out of convenience due to the difficulty of going up and down the slope with early technology, which would have been a waste of energy for farmers. Outside of the middle east, contour farming can be found across the globe in other areas like classical Europe (Fussell) where they also utilized this practice for ease of use and water retention. While there is not much documented history on preindustrial farming history, straight line farming was brought over to America with the pilgrims and was used almost exclusively until the early 1950s. Places like the Upper Mississippi Hill Country suffered massive erosion from years of poor farming practices and were quick to adopt contour farming, due to its better nutrient, soil, and water retention, later followed by no-till farming (Trimble). Today a fair amount of the county has adopted contour plowing, but there are still places that should. In our backyard you can see farms on the benches of the mountains that should follow better farming practices but have yet to adapt.

## Contour Farming in Montana



The field pictured to the left shows an example of contour farming in an area we wouldn't not typically expect to see it. While this field does not look practically steep, contour farming is recommended for areas between 2-10% grade (Nelson) and would be very good for areas around cache valley and the mountain west.

## Fundamental Ideas

The shift from straight line farming to contour plowing represents a shifting baseline in farming practices. Only a century ago if you mentioned the idea of contour plowing in the United States, not only would people not know what you were talking about, you would probably get laughed off the farm. We now understand how important topsoil and nutrients are for long term farmland health and prolonged use, and this is the way to get a lot closer to sustainable farming practices. The moving away from straight line farming shows that man's dominion over nature is not absolute, and that there are forces we can not control and will be affected by. They learnt this the hard way back during the dust bowl and because of this more environmentally conscious practices, including contour plowing were proposed shortly afterwards. We can learn a lot about sustainability by looking to the past, for both good and bad examples.

## Works Cited

- Forti, Luca, et al. "Geomorphological Assessment of the Preservation of Archaeological Tell Sites." *Scientific Reports*, vol. 13, no. 1, Nature Portfolio, May 2023, <https://doi.org/10.1038/s41598-023-34490-4>.
- Fussell, G. E. "Farming Systems of the Classical Era." *Technology and Culture*, vol. 8, no. 1, Jan. 1967, p. 16, <https://doi.org/10.2307/3101523>. Accessed 16 Aug. 2020.
- Nelson, Philip J. "To Hold the Land: Soil Erosion, Agricultural Scientists, and the Development of Conservation Tillage Techniques." *Agricultural History*, vol. 71, no. 1, 1997, pp. 71–90. JSTOR, <http://www.jstor.org/stable/3744686>. Accessed 8 Apr. 2024.
- Ramanjaneyulu, A. V., et al. "Contour Farming Improves Soil Moisture and Dry Land Crop Productivity on Rainfed Alfisols." *International Research Journal of Pure and Applied Chemistry*, 28 Nov. 2020, pp. 60–69, <https://doi.org/10.9734/irjpac/2020/v2i12130290>. Accessed 24 Aug. 2022.
- Trimble, Stanley W. *Historical Agriculture and Soil Erosion in the Upper Mississippi Valley Hill Country*. CRC Press, 2012.

## Modern Applications

Contour plowing, while a deeply historical farming practice, is somewhat back in vogue now. With better science, modern humans are slowly returning to a practice that predates science funnily enough. Contour plowing has been shown to greatly increase water retention in fields and greatly decrease nutrient runoff. This method also decreases erosion which could greatly help reduce the amount of sediment lost down the Mississippi river every year. There is also a big resiliency application with contour farming in the context of climate change. Not only will climate change affect where we can farm in the future, it also can increase erosion by affecting severity and frequency of storms and climatic events. Contour farming can help us adapt to these changing conditions and farm new areas opened by climate change. The practice of contour farming can also be improved with the addition of no-till (Trimble) to further reduce erosion and nutrient loss (Nelson), creating a strong foundation for sustainable and long-term farming.

Contour farming, South Carolina circa 1941



Due to the hilly nature of this area of South Carolina, contour farming was adopted sooner than other areas of the county out of necessity. While other places could make row farming work, that would be very difficult here due to the wet climate and steep grades of the region.