

How to Build Your Pothole Plot

What is potholing?

Potholing is a strategy for small farms that consists of tilling only where crops are planted. Potholing concentrates tillage and fertilizing to where it is needed for plant growth, enhancing soil fertility and preventing topsoil erosion.

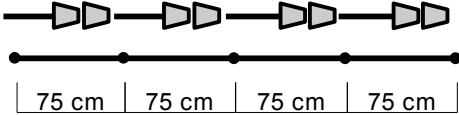
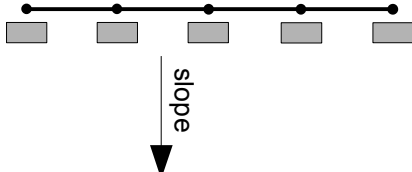
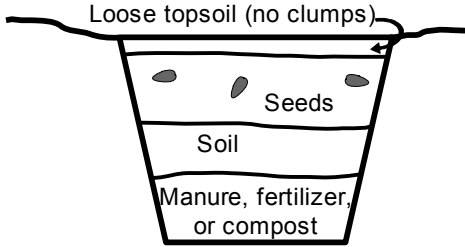
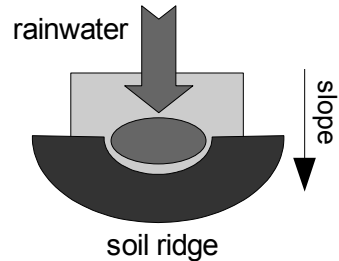
Limiting the tillage to the soil around the roots of each plant leaves most of the soil on a plot undisturbed, protecting soft, fertile soil from blowing away in the wind or washing away in heavy rains. Potholing is also a cheaper farming method, as each pothole remains fertile for up to three years, reducing manure or fertilizer costs. In addition, farmers spend much less on fertilizer because it's only added to each pothole rather than the entire plot.

Pothole plots, unlike keyhole gardens, are well-suited for larger crops such as maize, beans, sorghum, squash, and wheat.

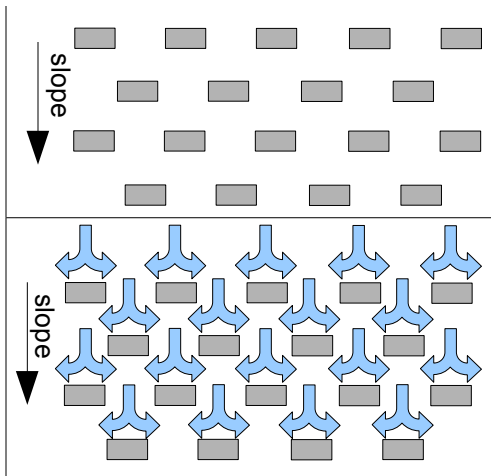
Benefits of pothole plots

<p>Soil enrichment</p> <ul style="list-style-type: none"> The manure, fertilizer, or compost included in each pothole provides nutrients for plants. 	<p>Three-year fertility cycle</p> <ul style="list-style-type: none"> Each pothole remains fertile for three years, as it protects soil nutrients from wind and water erosion.
<p>Money-saving design</p> <ul style="list-style-type: none"> Pothole plots are cheaper than conventional plots because they require fertilizer only around each plant instead of throughout the whole plot. 	<p>Water runoff retention</p> <ul style="list-style-type: none"> The arrangement of the potholes traps runoff from rain, preventing erosion and watering crops simultaneously.
<p>Labor-saving design</p> <ul style="list-style-type: none"> Though pothole plots take time to build, potholes can be reused without redigging for three years. This means that farmers do not have to repurchase fertilizer or retill the plot for three years. 	

Steps in Construction

	<ul style="list-style-type: none"> Cut a string that stretches across the width of your plot. Tie knots along the string every 75 cm. This distance is the same as the length of a spade plus the length of another spade blade.
	<ul style="list-style-type: none"> Lay the string flat on the ground across your plot. Dig potholes at each knot in the string. The potholes should be 30 cm by 10 cm and about 15 to 20 cm deep. <p>Remember:</p> <ul style="list-style-type: none"> If there is a slope at your plot, make sure the short side of each pothole is aligned with the slope. Do not discard the extra soil. Do not till the entire plot. Instead, only dig where you will plant.
	<ul style="list-style-type: none"> Add a few handfuls of manure, fertilizer, or compost to each pothole. Next, cover the manure with soil. Plant your seeds in this soil. If you need to cover the seeds with more soil, use some of the soil left over from digging the pothole. <ul style="list-style-type: none"> Each pothole should be slightly lower than the rest of the plot.
	<ul style="list-style-type: none"> Using the remaining soil, build a crescent-shaped ridge around the downhill side of each pothole. The ridge will trap water at each plant, preventing soil erosion and saving water for the crops.

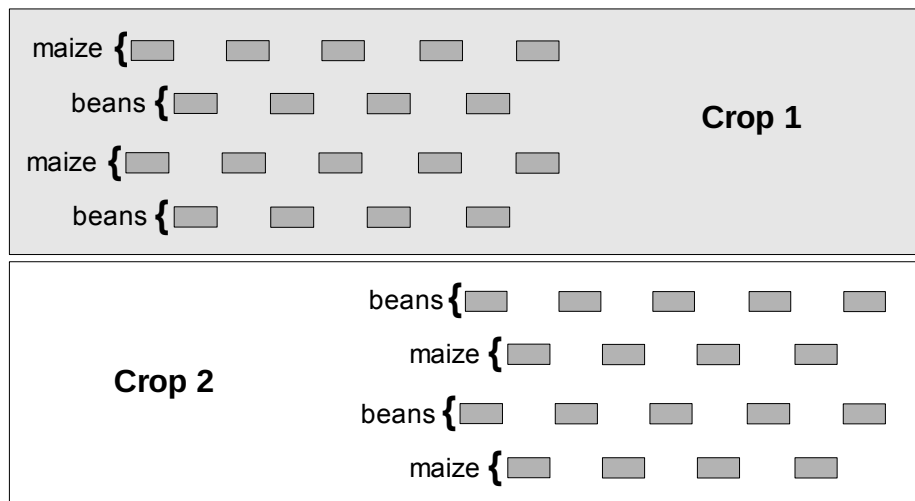
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- Continue to make rows of potholes until you fill your plot with potholes.
- Arrange your potholes so that each pothole lies behind the gaps of the pothole row directly uphill. This way, any extra water that runs past each pothole will run into a pothole below.

Planting your potholes

Space, soil nutrients, and pest management are key considerations in planning your plot. You can plant rows of one crop in between rows of another crop (maize, then beans, then maize, then beans; for example). Then, if you switch which rows are planted with each crop, your soil will remain fertile longer.



Another idea is to **plant two complimentary crops (such as beans and maize) in the same pothole**. This method will give your crops an extra boost as they grow and will keep your soil especially fertile.

Crop	Number of seeds per pothole	Planting depth
Maize	3 (during drought, thin out to 2 per pothole when the plants are knee-high)	5 cm
Sorghum	10 (thin out to 6 per pothole when plants are knee-high)	5 cm
Beans, peas	5 to 8 (no thinning required)	3 cm
Wheat	20 seeds or 1 pinch	3 cm
Sunflower	6 (thin out to 4 per pothole when the plants are knee-high)	5 cm

Maintenance of pothole plots

Mulching

- After harvest, leave any crop stalks in your plot. They will act a protective layer against erosion and will help keep the soil moist.
- As the stalks rot, they will return nutrients to the soil.

Reuse

- Potholes can be used for three years before you must dig them again.

Ridges

- Ridges are essential to the design of the pothole and need to be maintained. Creating ridges along the downhill slope of the potholes will trap water for the crops.

Weeding

- Weeds take nutrients and water from crops, so they should be uprooted periodically during the growing season. They can be left on the plot in order to rot and return nutrients to the soil.
- Once crops have grown about knee-high, they should be thinned out to provide more space and nutrients for the crops that remain.