



# How to Plow a Field

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Plowing (sometimes spelled "ploughing") is the process of turning over and loosening the top layer of soil. This makes it easier for seedling crops to take root and has the added benefit of removing crop residue and weeds. There are many different ways to plow. Depending on the equipment you have and the size of your field, you may need to use anything from a tractor-pulled plowing rig to a simple spade and rake.

Method  
1

## Preparing to Plow

**1 Schedule your plowing just before planting.** The purpose of plowing is to get the field ready for crops to be planted. For this reason, the best time to plow is generally right before you plan to plant your crops. Generally, this means the beginning of the growing season, which can vary based on your location.

- Technically, you can plow any time after the previous year's harvest and before the spring planting period. However, leaving too much time between plowing and planting can lead to soil erosion.<sup>[1]</sup>
- A good guide showing the approximate start of various growing seasons in the continental U.S. is available [here](#).

**2 Check your equipment.** This is important if using a tractor or other mechanized plowing machine. Make sure all parts are in good working order following winter storage. Top off any fluids or lubricants and make sure the tires have adequate pressure.

- If plowing by hand or using animal plowing, make sure the blades are straight and that whoever/whatever is pulling the plow is healthy and strong.

**3 Clear the field of obstructions.** Take a walk through the field, looking for any obstacles (like rocks, pieces of wood, and loose foliage) that can be removed. Try to get the field as level as possible by filling in small holes or smoothing out raised patches. Take note of any obstacles that you cannot remove (like trees, boulders, etc.).

- Before plowing, the field should be mowed so that any vegetation is short and low to the ground. Too much vegetation can clog mechanical plows and make the work harder for manual plowing methods.

**4 Plan out the plow route.** To make the best use of your time and effort, plan a route that's as efficient as possible. Know where you will need to stop and turn the plow. You'll also want to make sure you know where the edges of your field are so you don't plow into another person's field or into a field already plowed and planted. Finally, plan to plow around any obstacles that can't be removed.

- For rectangular fields, the most efficient path is generally to plow in the direction of the long sides of the field, turning around when you reach either end. This minimizes the number of times you will need to turn around.
- Note, however, that if you are using animals, you should use the opposite approach for fields more than 150 meters long.<sup>[2]</sup> In other words, plow in the direction of the short sides of the field. This prevents fatigue by giving the animals many chances to rest.
- For non-rectangular fields, you can plow efficiently by following the contours of the field and working your way towards the center.

Method  
2

## Plowing by Hand

*This approach relies on your own strength and endurance. It is best for gardens and small plots of growing land up*

to about an acre.<sup>[3]</sup>

**1 Use a spade to turn the soil up in rows.** Starting in the corner of your plot or garden, plunge your spade a few inches into the ground. Turn the dirt over, keeping most of the topsoil on top (the topsoil will be richer, softer, and darker than the soil underneath it). Repeat this process, proceeding down the edge of your plot, then doubling back when you reach the end. Leave turned-over rows (or furrows) a foot or two apart from each other.

- In most locations, the topsoil is about six inches to a foot thick (though this can vary).

**2 Rake the ground.** Once you've tilled your plot into rows, go back over your work with a rake. Use the rake to break up large soil clods, loosening the soil so that it can accept seeds. You'll want this loose, broken-up soil to extend about two inches deep.

- For most crops, aim to break the soil into clumps smaller than the size of a dime.

**3 Leave furrows for good drainage.** As you rake the soil, take care not to flatten your plot with your footsteps. A flat field will retain too much water in the event of rain, which can lead to crop failures. Try to preserve the highs and lows of your furrows so that excess water is directed to the edges of the field.

Method  
3

### Plowing with a Machine Tiller

*A rotary tiller is less labor-intensive than working by hand. It is best for smaller plots up to about five or six acres.*<sup>[4]</sup>

**1 Pick an appropriate tiller for the job.** Most modern tillers come in one of two varieties: "front-line" (driven by the front wheels) and "rear-line" (driven by the rear wheels). Both will work for gardens and small fields, but if you have the choice, pick the type that's most appropriate. See below:

- **Front-line** tillers are typically easier to use and better for smaller gardening situations. They handle like a power lawnmower and, with a little care, can be used in tight spaces without damaging plants or property on either side.
- **Rear-line** tillers are a little harder to use but are better for bigger plowing jobs. They are bulkier and don't allow for as precise of turns, so they should be used away from plants and property you want to protect.

**2 Pick an appropriate tilling depth and speed.** Almost all mechanical tillers allow you to adjust these settings with controls on the unit. As a general rule, harder, compacted soils require slower, shallower plowing. Tilling too deep or too fast in this soil can overwork the motor. For established beds, you can use deeper, faster tilling.

**3 Till in straight rows.** Position the tiller in the corner of your field where you plan on starting. Start the tiller with the starting mechanism. This can vary from unit to unit but is often similar to the type of mechanism you might expect on a lawn mower. Use the tiller's controls to slowly work your way down the plot in a straight line, turning around and doubling back at the end.

- Some tillers have a safety switch that prevents starting. If you can't get the tiller started, check for one of these.

**4 Re-till if needed to break down the soil.** Be prepared to go over your work a second time with the tiller. Any clods of dirt should be broken into roughly dime-sized pieces or smaller. When you're finished, your plot should be tilled into a series of loose furrows so that water can drain to the edges.

Method  
4

### Plowing with an Animal Plow

*This method requires at least one draft animal (like a horse, mule, etc.) strong enough to pull your plow. It's best for small and medium-sized fields up to about 150 meters per side.*<sup>[5]</sup>

**1 Pick a draft animal that is broken to the plow.** Several different animals are suitable for plowing. Among the most common are mules, horses, and oxen. Whichever animal you use should be *broken to the plow* — that is, it should be calm, comfortable and obedient with this sort of work. Working with an unbroken animal can be dangerous. Losing control while plowing can lead to injury for you or the animal.

**2 Harness your animal to the plow.** The exact sort of harnessing necessary will vary by animal and by plow. Get an expert to help you if you are unsure how to proceed — harnessing the animal incorrectly can hurt it. Below are general instructions:<sup>[6]</sup>

- Catch the animal and bridle it. Place the metal bit in its mouth and secure the leather straps on either side.
- Harness the collar around the animal's neck. Connect the collar to the harness draped over the animal's back. Fasten the harness to the collar.
- Attach the trace chains from the harries, through the loops in the back band and belly band, and to the plow's singletree.
- Don't forget the belly band if you're using a horse — because of the way horses' shoulders are constructed, the animal can be choked by the weight of the plow if the harness slips without this safety measure.

**3 Start plowing in straight rows.** Lead the animal to the corner of the field to be plowed. Have the animal walk forward as you plunge the blade of the plow into the ground to break up the earth. Walk between the handles behind the animal, controlling its speed so that it moves at a manageable pace. Use the plow's handles to control the angle and depth of the blade. Have the animal turn around when it reaches either end of the field and double back.

- As noted above, for extra-long fields, it's best to plow in the direction of the short sides to give your animal more breaks.

**4 If you can, switch out plow blades to get good furrows.** There are a few different ways to get straight, properly-spaced furrows when you're working with an animal plow. Here is one versatile method that uses a type of plow called a "turning plow" as well as a different variety called a Georgia stock plow:

- First, use the turning plow to make two furrows with about 12 inches of unplowed space in between.
- Next, plow about 4 inches inside the balk (the unplowed space). Do the same on the other side so you are left with about 4 inches of unplowed space in the middle.
- When your whole field is tilled this way, switch to a Georgia stock plow with a 20-inch sweep. Plow right through the middle of the balk. You will be left with neat, orderly trenches you can drop your seeds into.

Method  
5

## Plowing with a Tractor

*This is the fastest, least labor-intensive option, though the equipment is expensive. This method is best for larger fields that can't be plowed with the methods above. See also: [How to Plow With Two Row Cultivators](#)*

**1 Level the plowing rig.** For best results, the plow pulled by the tractor must be level from side to side and from front to back. The more plow blades on the rig, the more important levelness is.

- To level the plow, take it to a concrete pad in your driveway or some other place that is perfectly flat. One of the two lower bars will be made for angling the plow from side to side. There are normally levers for the two hydraulic arms. The first lifts both arms up and down. The second is for the plow draft, or side-to-side angle. Adjust this lever until the plow is flat from one side to the other on the concrete (you can lay a carpenter's level on it to check).
- If there isn't a plow draft lever, there should at least be a manual crank on the one arm that you can turn to adjust the angle.
- Next, adjust the third upper arm so that the plow is level front to back. It may need further adjusting when you start plowing, as the plow should be level when it is sunk into the dirt and plowing.

**2 Set the depth for your plow.** When you're using a mechanical rig, you can use hydraulic controls to change the depth of the plows as you work. You want the plow blades deep enough that they turn over the top layer of soil. However, the plow shouldn't be so deep that it causes the tractor to labor hard. The exact way to adjust the plow's

depth will vary from rig to rig.

- There is normally a depth stop on the up and down lever for the plow's hydraulic arms. Set it so your plow stops at the proper depth each time you get to the end of your row and need to turn around and drop the plow again.
- If the tractor starts pulling to hard raise the plow up a little then let it back down while keeping going. If the ground is when and you start spinning your wheels, pull the plow up fast

**3 Plow in even rows.** Position your tractor with the plowing rig hitched behind it in the corner of your field. Start plowing your field in rows, using the hydraulic controls to lower the plows into the dirt. When you reach the end of a row, raise the plows out of the ground as you turn, then lower them again for the next row.

- When using a tractor, you want to space out your furrows carefully because these will be the low, wet spots in the field. After you plow each row, there will be a rut at the one side of where you just plowed. When you turn around, your tractor's tractor should go into this rut. The next swipe should plow the dirt from the next row over into that rut, covering it up.

**4 Plow your end rows perpendicular to the rest.** When you're using a tractor to plow a large field, you need to worry about soil erosion. One way to fight this is to plow the end rows (the rows along the shorter edges of the field) at 90 degrees to your main rows. This way, the raises and furrows act as a protective barrier from wind and rain, keeping the soil from washing away.<sup>[7]</sup>

- If you're not dealing with a perfectly rectangular field, your end rows may not be perfectly 90 degrees. This is OK — just get the opposing edges of the field as perpendicular to the main rows as possible.

### Tips

- Beware especially wary of low, wet spots in the field when you're using a tractor. If you have to go through these areas, raise the plow. If you leave the plow down, it's possible to get stuck. If this happens, you may have to get another tractor to pull you out, use boards, or wait until it dries or freezes.
- Keep in mind that animal plows can be very fatiguing for the animal. You may want to divide your work over multiple days or switch out animals when one gets tired. For reference, one ox can plow about an acre of land per day.<sup>[8]</sup>

### Sources and Citations

1. <http://www.epa.gov/oecaagct/ag101/cropsoil.html>
2. <http://www.fao.org/ag/aga/AGAP/FRG/Draught/chap331/chap331.pdf>
3. <http://motherhood.modernmom.com/plow-garden-hand-8055.html>

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