

Creating a Straw Bale Garden

Why use straw bales?

Straw bale gardening is an old idea that's gaining new fans. A basic straw bale (not hay, which has too many seeds) becomes the planting medium, rather than soil. Because the bale heats up as it decomposes, it keeps the plants warmer than they would be if planted in our northern garden soil. Best of all, a straw bale garden can be planted anywhere the bales will get at least 6 hours of sun – even on a concrete or gravel surface.

I. Getting Started

What you'll need:

- However many straw bales you wish to plant
- Approximately 3 ½ cups of high-nitrogen granular fertilizer per bale (at least 20% nitrogen). Don't use weed-and-feed. Try to use "immediately available" nitrogen rather than "slow-release". Urea pellets, which are 46-0-0, are ideal and can be found at feed and grain stores.
- Stakes, if you plant tomatoes or taller vegetables
- Approximately 1 cup of 10-10-10 (or similar, like 13-13-13) basic granular fertilizer per bale

Placing Your Bales

Choose a sunny spot in which to set your straw bales. If you are planting more than one bale, you can place them end-to-end in a row or side-by-side to make a square. If planting rows, try to leave 24 inches of space between the rows to allow access. If your bales get sun in the morning, it will help dry the leaves and lessen the chance of disease.

If possible, orient your bales so they face north-south. This makes the sun hit them more evenly. It doesn't matter if they are set on grass, concrete, or gravel – the surface underneath simply provides drainage.

The strings of the bale should be on the sides, not on the top or bottom. If you look at the bale, you'll notice that one side of the bale looks like the straw is folded; the other side looks like the straw has been lined up and cut off. **Place your bales with the cut ends of the straw facing up.** The water will go down in the cut straw.

Conditioning Your Straw Bales (takes 10-14 days)

The straw bales need to be conditioned before you can plant in them. Conditioning simply means you start getting them to decompose. Then they will hold plenty of water, and generate heat as the straw gradually breaks down.

About fertilizers: granulated fertilizer has three numbers on the bag, such as 27-0-3. The first number is the percentage of nitrogen; the second is phosphorous, and the third is potassium. Look for a fertilizer that has a high first number – 30 or more is ideal – and low or 0 second and third numbers. Nitrogen speeds decomposition, which is needed to get the straw bales "cooking". Urea has a composition of 46-0-0 and might knock several days off your straw bale conditioning time, but a lower nitrogen percentage will still work. Remember to use "immediately available" nitrogen – check the bag for information.

Day One: Apply ½ cup of high-nitrogen fertilizer over the top of each bale. Water the bale until it is thoroughly waterlogged and water is running out of the bottom. You might want to pour 5 gallons of water over the bale, wait an hour, then repeat the process until it is completely soaked, top to bottom. Some water may run out the sides, but it's not critical that the sides be wet.

Day Two: Water the bales again, soaking them good. If you fill water buckets the day before, the water will be warmer and keep the microbacteria from slowing down, but it's not necessary for success.

Day Three: Add another ½ cup of fertilizer per bale, and water the fertilizer into the bale. Watch for water running out of the bottom. That's how you'll know it's good and soaked.

Day Four: Water only, soaking the bale.

Day Five: Add another ½ cup of fertilizer to each bale and soak it well.

Day Six: Water only, soaking the bale. You might notice a slightly sweet aroma coming from the bale. This will disappear after several days.

Days Seven Through Nine: Apply ¼ cup of fertilizer to each bale and water in well, every day. Note that you are cutting the fertilizer in half, but applying it every day.

Day Ten: Apply 1 full cup of a balanced 10-10-10 type general garden fertilizer and water it in. You'll see channels developing from the water. Try to force the water and fertilizer into the areas around these channels, so the fertilizer doesn't just wash through.

Keep the bale moist, and within a couple of days, the bale will be ready to plant. It will be warm and the straw will tear out when you pull on it. What you now have is a rich, composted organic bale that is warmer than surrounding soil and air, is weed-free, and holds plenty of water but drains the excess easily. It's a planting paradise!

II. Planting Time

The easiest way to get a straw bale garden started is to plant pre-started seedlings. It's helpful to have a small amount of potting soil on hand. Once you are ready to plant, use a hand trowel (or just your hand) to open up an area large enough to insert the entire root mass easily. You may need to pull out some of the straw to create a hole. Make certain to remove the pot, even if it's a peat pot. Tear the peat pot away and discard it. Use a small amount of potting soil to make sure the roots of the seedlings are well covered and the area around them is filled. Water the seedlings immediately to seal in the roots and get rid of any air spaces around the roots.

The following chart will give you an idea of the approximate number of plants per bale:

Plant	# Per Bale
Tomatoes	2 to 3
Peppers	3 to 5
Eggplant	3 to 5
Cucumber	3 to 5
Zucchini	3 to 5
Squash	2 to 3
Pumpkin	2 to 3
Bush beans	4 to 6

You can also grow herbs. Just space them as you would if planting them in the ground.

Tall plants, such as corn, and root vegetables, such as potatoes and carrots, don't do as well in a straw bale and aren't recommended.

Planting Flowers in a Straw Bale: If you'd like to add some color to your bales, add annual flowers. Any annuals that grow to about 12 inches or less in height will work just fine. You can plant them at the corners of the bale and let them cascade (petunias work great for this) or plant them on the sides of the bale. Just use a trowel to open a hole, pointing downward at about 45 degrees, and then insert a flower seedling from a six-pack. Marigolds may help keep garden pests at bay.

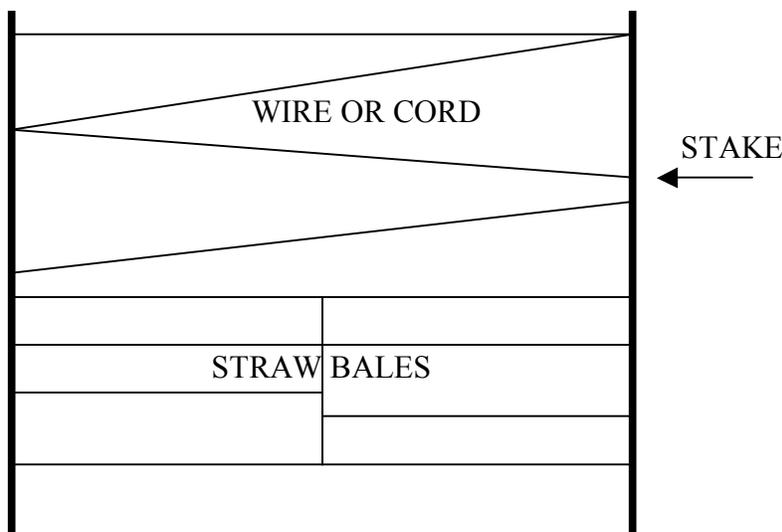
Planting Seeds in a Straw Bale: It's easy to start seeds in a straw bale. For this, you will need enough potting soil for a 2" deep layer on top of the bale. Create the potting soil layer, plant your seeds, water them gently, and then cover the top of the bale with one or two clear plastic seedling tray covers. You can stake these down to the bale. Use a 20" length of wire (or cut a coat hanger) and use it like a giant staple. Stick it through the seed tray and into the straw bale. This will hold in the heat and keep the soil from washing away in a rain. Remove the tray cover when the seedlings are tall enough to touch the roof of the cover. Harden off the little plants by lifting one end of the tray a little each day over four or five days before removing.

III. Staking Your Plants

Tomatoes and taller plants will need to be staked. If you set your bales on grass or dirt, you can pound a five-foot stake into the ground at each end of your straw bale rows. Pound it down at least a foot. This will help keep the bales together as they age. Posts, pipes, or wooden stakes will all work well. Then run a wire from one stake to the other, zig-zagging it back and forth to create a trellis to support vines or heavier crops.

Or, you can stake the plants individually. Try to drive your stakes through the bale and partway into the ground for added support. Then tie your plants to the stakes as you normally would.

Vine crops: Pumpkins, squash, and cucumbers will trail over the side of the bales. Pumpkins and squash will wander along the ground and flower where they will. There is no need to stake or anchor them.



IV. Care of Your Straw Bales

Watering: Water your straw bale early in the day if possible, to allow the leaves to dry. A great way to water is to run a length of soaker hose back and forth across the top of the bale, and use lengths of stiff wire as a large staple to pin it down in on the bale. If you purchase an inexpensive water timer, you can water your bales for 20-30 minutes several times a week. You can't really over-water a straw bale, as any excess will simply run out the bottom. Not sure if your bales need watering? Just poke your finger into the bale. If it feels dry, it needs water.

Fertilizing: Every 2-3 weeks, use a liquid fertilizer such as Miracle-Gro on your bales. Mix it at half-strength for the first couple of uses. You could also sprinkle some granulated 10-10-10 fertilizer on the top of the bales, or if you have access to a compost pile, make a compost or manure “tea” and use that.

Weeding: You’ll probably see some leftover wheat or oat seeds sprouting in your bales as you are conditioning them. You can pull these out, cut them off with scissors, or throw some black plastic over the bales while they are conditioning. This will “cook” the sprouts. Be warned that you might take the plastic off and find that the sprouts are gone, but you have a crop of mushrooms! These won’t hurt your plants in the slightest. After snipping the sprouts several times, they’ll mostly die off anyway. Other weeds aren’t a problem. You’ll spend about two minutes per bale over the course of the summer on weeding.

V. At the End of the Season

Most straw bales will only last one season. When you are finished harvesting your plants, simply pull the plants out, cut the strings on the straw bale, toss in some fertilizer and water well, then stir it all around. Over the winter, the straw bale will compost down into mulch. Next spring, you can spread it around your garden, mix it in flower beds, or mulch existing plantings around your house. If you spread the mulch in an area where the soil is poor, in a couple of years you’ll have a decent area to plant crops like strawberries, sweet corn, rhubarb, or raspberries that don’t do well in a straw bale.



Happy Gardening!

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