

Straw Bale Gardening

Allen R. Pyle, Jung Seed Company

Introduction

Straw bale gardens are easy to create and can be ideal for creating new garden beds or developing a brand new garden. They can be used to overcome difficult soil conditions or areas where soil-borne diseases are present. Bale gardens are a creative way to compost, are space efficient, and they have reduced weeding needs.

When setting up a new straw bale garden, consider starting small. Even a single bale or just a few bales will serve well as a starter garden. Think of each bale as a 40 gallon capacity container.

Garden Setup

Arrange bales with the cut ends facing upward and the folded ends down. When placed this way, the strings will be along the sides of the bales, not across the top and bottom. Positioning bales this way improves moisture infiltration into the bales and helps to keep them from quickly losing their shape as they decompose.

Bales can be placed directly on the ground, on top of cardboard or newspaper mulch, on landscape fabric, or in constructed decorative frames. They can even be placed on concrete or asphalt!

Place bales end to end in a row. At the ends of the rows, you can use sturdy stakes or fencing T-posts to keep the bales together and to provide an easy way to trellis climbing plants. Wire can be strung between the posts to make a trellis. Space the wires about every 10 to 12" up the poles. If there is a stretch of cold weather, clear plastic or a spun bonded fabric floating row cover can be hung over the lowest wire to protect plants. You can also set tall metal plant supports through the bales as another way to support tall growing plants.

Bale Conditioning

This is *the most critical step* for success. It jump-starts the composting process, which generates heat (up to 120 to 125 F!). It generally takes 2 to 3 weeks to condition bales, so plan ahead to ensure that the bales are ready for your desired planting time.

Not properly conditioning bales will result in a less productive garden, so be sure to carefully follow these recommendations.

Steps to conditioning:

- Step 1 – Moisten the bales thoroughly. Do this by watering them each day for 2 to 3 days.
- Step 2 – Add a high nitrogen fertilizer like Urea or lawn fertilizer (fertilizer only, not a weed & feed!). The blend should be over 20% nitrogen (first number). Apply ½ cup of fertilizer per bale per application. For an organic option, use 3 cups of blood meal per bale, per application.
- Step 3 – Add a pre-planting fertilizer
- Step 4 – Plant!

It is simplest to break these steps down into daily chores to do over a period of weeks. The steps are:

- **Week 1** – water the bales daily for 2 to 3 days. After the initial watering step is complete, begin to fertilize every other day (½ cup conventional fertilizer per bale or 3 cups blood meal per bale). Water the fertilizer in after applying it, and water the bales on the days that they are not fertilized.

- **Week 2** – Fertilize at ½ the rate used in the first week the first 3 days of the week. Water daily for the rest of the week. At the end of the week, fertilize the bales with 2 cups of a well-balanced fertilizer and water in. Begin planting if the interior temperature has dropped to 75 to 80 F.
- **Week 3** – If bales are still hot, continue watering daily, but reduce the amount of water applied. At the end of the third week, you can check the bale temperature. It should have dropped into the 75 to 80 F range. At this point, bales can be planted.

Crop selection

Most annual vegetable crops, annual flowers, and annual herbs will work fine in a straw bale garden. Even root crop like potatoes, beets, and carrots will grow quite well.

Sweet corn is an exception, as it needs to be planted in fairly large blocks to produce well and generally needs more space than is available in a typical straw bale garden.

Onions can be challenging, as they are shallow rooted and may need more frequent watering and fertilization than other crops. You may have more success with bunching onions.

Planting

To plant seedlings, make a space in the top of a bale and carefully insert the transplant. Fill in around the roots with a good quality peat-based potting media and water in. Add additional potting mix as needed to fill in any settled areas. Plant seed potatoes deeply, about 10 to 12” down into the bales, and cover with soilless media.

Sowing large-seeded items

Put a 2 inch layer of peat-based potting mix on top of the bales. Pack it down gently, moisten the media and sow directly into it at the recommended planting depth.

Sowing small seeded items

Because of the coarse nature of the straw, it can be challenging to direct sow small-seeded vegetables like carrot, radish, basil, etc. One solution is to use commercial seed tapes, which space seed out evenly in a degradable paper. Strips of the seed tape are planted to establish plants.

A homemade option is to put down a layer of paper towel on top of the bales, sow seeds on the paper towel, and then cover shallowly with potting media.

Spacing

Generally use the same spacing that would be used for in-ground planting. Tall plants will require support of some sort and may benefit from wider spacing. Usually tomatoes, peppers, and eggplants are planted at 2 per bale, and vigorous vining crops at 1 to 2 per bale.

Garden Maintenance

Straw bale gardens are best watered with a soaker hose. You can automate watering by using a timer on the soaker hose. Feed with a soluble fertilizer solution every two weeks to ensure continued good growth

The only weeding that may be needed is if the straw contains some seeds left over when the grain was harvested. These are generally easy to manage and can be hand pulled or covered with mulch.