

Horticulture Tips

From the Brown County UW-Extension Horticulture Department

Straw Bale Gardening Technique

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There are lots of varied styles and techniques when growing vegetables in the backyard. From simple container gardening to a farming style of roto-till gardening, vegetables can be raised under different ways provided the minimum growing requirements such as media, nutrients, water, and light are available at the right amount for growth and development.

One such creative style of growing vegetable is in straw bales where multiple bales of straw are held together horizontally on the ground and are semi composted by conditioning the bales. A variety of herbs, annual flowers, and vegetables like squash, pumpkin, tomatoes, and peppers can be grown decently in the straw bale media. A few advantages of straw bale gardening is the portability of the bale, where it can be placed even on concrete or asphalt, and at the end of the season it can be recycled as mulch or into the compost bin.

For straw bale gardening, find a local source that can provide bales of clean straw from oats, wheat, or alfalfa. Beware that the hay bales may contain weeds and grass seeds. Set the bales in a location that receives full sun for at least 6 hours or more per day. Spread a cardboard sheet or several layers of newspaper underneath the bale to prevent weeds from germinating from the ground and to hold water. Place the cut side of the bale facing up for easy infiltration of water and nutrients.



Using a twine, encircle the bale tightly at the long ends so they are held together firmly.

The next step is to condition the bale. It is a similar process to the initial stage of composting where the bale is soaked with water and a high nitrogen source of fertilizer is added to quickly initiate the decomposition of the bale. In this process, the bale is watered thoroughly and kept wet for three days. On the next three days (days 4-6), spread ½ cup of urea (44-0-0) on top of each bale and water it thoroughly. Organic gardeners can use feather meal or blood meal (can stink) as an alternative to urea.

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In the following three days (days 7-9), spread ¼ cup of urea on top of each bale and water it thoroughly every day. On day 10, water the bale thoroughly again without any fertilization. On day 11, check the temperature of the inner surface of the bale using a cooking thermometer or by inserting your finger to determine the warmth of the bale. If the bale is still warm, continue watering thoroughly for a few more days until it has cooled down to normal body temperature (99° F) or lower.

After three weeks of prepping and conditioning the bale, dig a 4 inch planting hole on the top of the bale and stuff it with potting mix. Depending on the type of vegetable crops, the number of planting holes on each bale varies. Tomatoes and summer squash – 2 or 3 planting holes per bale; pumpkins – 2 holes; cucumbers – 4 holes; pepper, eggplant, okra – 4 holes; winter squash – 2 holes.

It is crucial to continue watering the bale every day to keep it moist. To save water and time, place a soaker hose on top of the bale and set it on a timer system. The semi-decomposed straw bale doesn't provide all the nutrients for the plant growth. Sprinkle some soluble balanced type of fertilizer like 10-10-10 every week or organic fertilizers like fish meal or blood meal and water it immediately. To train tomatoes and cucumbers, you can install a trellis on the ends of the bale.

From our demonstration trial experience, straw bale gardening requires high maintenance compared to other gardening styles and is not suitable for all vegetable crops. Limitations to plant space, nutrient, and water availability on the bale can affect the yield of tuber crops and other high demanding vegetable crops.



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