

GARDENING IN STRAW BALES

WHY? For the person who cannot bend down or is confined to a wheelchair, straw bale gardening can provide a way to enjoy the pleasures of gardening. It is also a very quick and easy way to have a garden, and if soils are poor it provides a deep rooting medium without any digging!



Before

First Season

HERBICIDES IN STRAW: It is possible for persistent herbicides to be in straw bales that will inhibit plant growth. Every individual in the supply chain of products treated with herbicides should provide information to the buyer on any herbicides used on the product. Purchase straw from suppliers who can provide you with this information. The broadleaf killing herbicides that should not have been used on straw for gardening are the pyridine carboxylic acids **pictoram, clopyralid and aminopyralid** because they can remain active in hay, straw, grass clippings, manure and compost from 30 days to several years depending on the situation. These herbicides can be consumed by animals, but will pass through the digestive tract and exit in the manure. If the product has alfalfa, clover or lespedeza in it, these herbicides were most likely not used on the product. You can test a product for the presence of these herbicides by growing three peas or beans each of several control pots containing commercial potting soil, and three peas or beans each in several test pots containing one part commercial soil and one part testing product for 2-3 weeks. If both grow normally, the testing product is safe. If the testing product yields abnormal growth, it is likely that the testing material contains ingredients that harm sensitive plants. Source: Davis, J., Johnson, S.E., and Jennings, K.M. 2010. Herbicide Carryover in Hay, Manure, Compost, and Grass Clippings: Caution to Hay Producers, Livestock Owners, Farmers, and Home Gardeners. NC Cooperative Extension AG-727W.

PREPARE THE BALES: After you have made your raised bed garden (see pg. 2), soak the bales with water by sprinkling with a hose. At first the straw is waxy and tends to shed water. Cover with plastic to keep moist. Repeat soaking the next day but do not cover with plastic this time. You will notice that the bales take up water more readily. Repeat again each day until the interior of the bale is soaked, about three days. You will be able to force a one inch square stake into the center when the bale is thoroughly soaked. Sprinkle 2/3 cup of ammonium phosphate over the top surface of the bale. Gently sprinkle with water to dissolve the phosphate and wash it into the straw. Sprinkle again the next day.

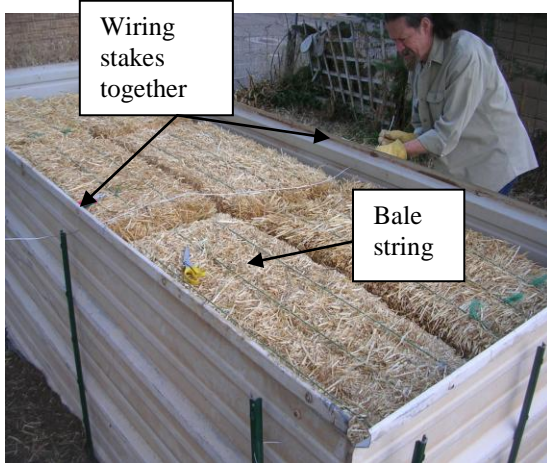
ADD SOIL IF NECESSARY: If the bales are too low, add three-way soil mix (see pg 2) until the top of your garden reaches about 3" below the edge of the panel sides. The 3" space is for your mulch layer.

PLANTING THE BALES: For planting directly in the bales, pony pack seedlings are recommended. Choose healthy, pest free plants with vigorous roots. Make holes in the straw with a stake (or serrated knife) and pull out a little of the straw to make a hole just big enough for the soil clump of a single plant's roots. Put the plant in this hole and fill around with your soil mix. Put at a minimum 3 inches of loose straw or hay over the planted area

For planting in soil on top of the bales, seeds or pony pack seedlings can be used. Plant seeds according to package directions. Sprinkle a loose thin layer of straw or hay over seedling area.

Straw Bale Raised Gardens with Corrugated Metal Sides

Creating a garden with straw bales is easy – just place bales in a garden location and surround the sides with some kind of impermeable, UV resistant, rigid material secured by stakes (this design uses metal roofing). You can also place a bale or bales in a container such as a stock tank. Just make sure it can drain. Preferably, place the bales “cut side down” meaning the bale strings are on the *side* not the top (unlike the picture below) because it is easier for the water to penetrate. However, bales can be placed either way. These instructions are guidelines. Once you know the basic concept, you can be creative with what works for you.

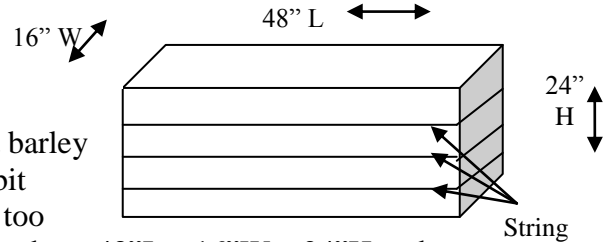


Site: Place your garden where it will receive at least 6 hours of sun. If your garden will be rectangular, try to place it lengthwise on the east-west axis which means putting the short ends facing east and west. West facing structures get very hot in the summer so you'll want to minimize that area. If you can't orient it this way, paint the panels with white paint to reduce the heat gain. If needed, level the area before placing the bales.

Materials:

Bales: READ PAGE 1.

Use oat or wheat straw (not barley straw because it might inhibit growth). Alfalfa hay works too



but is more expensive. Bale size varies slightly, but a 3- string bale is about 48”L x 16”W x 24”H and a 2- string bale is about 36”L x 14”W x 18”H. Do not take the wire or string off the bales.

Corrugated metal roofing: Heavy gauge, coated (if not coated, paint the inside of the panels with an exterior paint to protect the metal from corrosion). Length, height and quantity depend on the size of the garden and desired height. Leave 3” between the top of the panels and the top of the garden bed for mulch.

Circular saw: Cut the panels to length with a power saw with a metal cutting blade.

Supports: Sturdy “u” shaped fence stakes 4’ long. An example can be found in Home Depot (they are green). Space them about 3-4 feet apart on the outside of the panels. Heavy rebar also works.

Paint (optional): For the inside of the panels if the metal is not already coated. The panels will corrode quickly if there any corrosion is present.

Galvanized wire (optional): Rust-proof wire can be used to secure the corners and stakes across the bales (see above picture) to keep the stakes upright as the bales disintegrate. Banding around the entire bed can also be done. Periodically inspect the integrity of the wire.

Finishing Edges (optional): Edges can be finished off by securing a 90° metal edging on the corners of the planter to dress it up and to cover sharp edges.

Drill (optional): Drill through the panels for wiring the planter and to attach metal edging.



Garden Soil: Soil can be purchased from landscape material suppliers. A 3-way soil mix with approximately 60% topsoil, 30% mulch and 10% manure works well. Do not get “top soil” (it is your local areas’ true top soil and most likely not for gardening). After the bales are put into place and the panels secured, fill the areas between the bales with loose straw and/or soil. If you need/want soil on top, wait to put it on until the bales are prepared as indicated on page 1. As the bales disintegrate, add soil to keep the soil level at the desired height. Eventually the garden will become all soil. Author: Cado Daily