

Straw bale gardening – good, not-so-good and challenges

AT A GLANCE

Straw bale gardening is an alternative approach for gardening when top soil is not available or filling raised beds is cost prohibitive.

The Situation

Many locations in Lemhi County are too rocky for a garden spot or contains a large amount of bentonite. Good top soil is at a premium price and some people cannot afford to purchase it.

An alternative method for gardening in these situations is straw bale gardening. Straw bales can be purchased at the local feed store for an average of \$5 per bale. A sack of fertilizer is \$10 and one sack is enough to condition over 15 bales, making it an economically feasible alternative.

Our Response

Beginning in 2014, we started straw bale gardens in three locations. We followed the recommendations for conditioning and planting bales from the Washington State University Extension Fact Sheet on straw bale gardening and the book “Straw Bale Gardening” by Joel Karsten. Each site had four bales. The first bale was planted with two melons and one squash. Second bale was planted with two tomatoes and four basil plants. The third bale was planted with beets, carrots and kale. Fourth bale was planted with radishes and potatoes.

Straw bale gardens require regular fertilization. Plant leaves were monitored for yellowing and that determined when fertilizer was applied. We chose to utilize different fertilizing methods at each site. Site one



Squash, cucumbers, tomatoes, peppers and basil do well in straw bale gardens. Photo: Shannon Williams

utilized commercial fertilizer. Site two utilized fish emulsion and site three utilized compost tea.

We also utilized soaker hoses for the watering methods at each location. We discovered that straw bales do not hold water as well as soil and need frequent watering.

At the end of year one, we determined the following:

- Commercial fertilizer and fish emulsion were the best fertilizers.
- Seed germination was from poor to none.
- Plants requiring warm roots and heat, such as basil, cucumbers and tomatoes, did the best.
- Straw bales need frequent watering, daily or every other day, rather than long, deep watering.
- Potatoes did grow, but production was half of what is produced in a “regular” garden.

In 2015, the straw bales secured for the demonstration were top and bottom bales that had begun to decompose. We again conditioned bales according to guidelines. Our planting plan included tomatoes, basil, peppers, cucumbers, melon, winter squash, summer squash and broccoli. All sites were fertilized with commercial fertilizer on an as-needed basis. All of the plants produced except the broccoli. A melon was produced on the first bale which was at 4500 feet of elevation and a 10-day shorter growing season than the other sites.

For the 2016 demonstration, we secured straw bales that had been stored in a barn and were protected from moisture and sun light. The bales were conditioned accordingly. The planting plan included tomatoes, basil, peppers, cucumbers, melon and winter squash. At the suggestion of Master Gardeners, we tried seeds again. Bales were planted with green beans, carrots, corn and beets. This time, areas between the flakes of straw were filled with two inches of soil and then the seeds were planted. We had excellent germination and were able to harvest green beans and beet greens. Other plants did not produce at all or production was lower than in previous years. It is believed that the lower production was because the straw had not started to decompose because it was protected from moisture and sun.

In 2017, one site chose to utilize the bales from 2016 for a second year. The bales were conditioned with fertilizer and water in May. Bales were planted with basil, tomatoes, peppers and cucumbers. Potting soil was utilized with each plant this time. Due to the bales decomposing, no fertilizer was needed throughout the growing season. Cucumbers, tomatoes, basil and pepper production was comparable to regular garden production.

Program Outcomes

Straw bale gardening is definitely an alternative gardening medium when top soil is absent or not affordable. However, gardeners should be aware of the following:

- Straw bales require fertilization on a regular basis.
- Straw bales do not “hold” water as well as soil so frequent watering is required.
- Production may be lower depending on the decomposition of the straw bales.
- Some type of soil need to be added for any produce started from seed.
- Straw that is at least one year old and exposed to moisture and sunlight is best.

- Straw bales can be utilized for a second year. Production is increased and fertilizer requirements decrease but soil must be added with all plants.

FOR MORE INFORMATION

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