

What is Double Digging ?



*Beds made by double digging,
AAA farm, Bhaktapur, Nepal*

Double digging is a method of deep digging for vegetable beds. It means we dig twice as deep than normal cultivation. This is so we can mix compost and biomass deeper into the soil, so plant roots grow deeper and can get more nutrients. In these beds production is much higher, and though there's more work at the beginning, the beds stay fertile for a long time, and we don't have to dig again for many years.

Now let's learn about this method of how to work once to get good production for many years.

Why do Double Digging ?

Benefits of Double Digging

- makes the soil more fertile
- makes the soil able to absorb more water
- allows more air into the soil
- keeps the soil fertile for a long time
- allows plant roots to grow deeper into the soil
- keeps the soil light and soft for a long time
- dig once then do not have to dig again for 3-4 years



Shown here are double dug beds with mixed vegetable crops in Bhaktapur district, Nepal.



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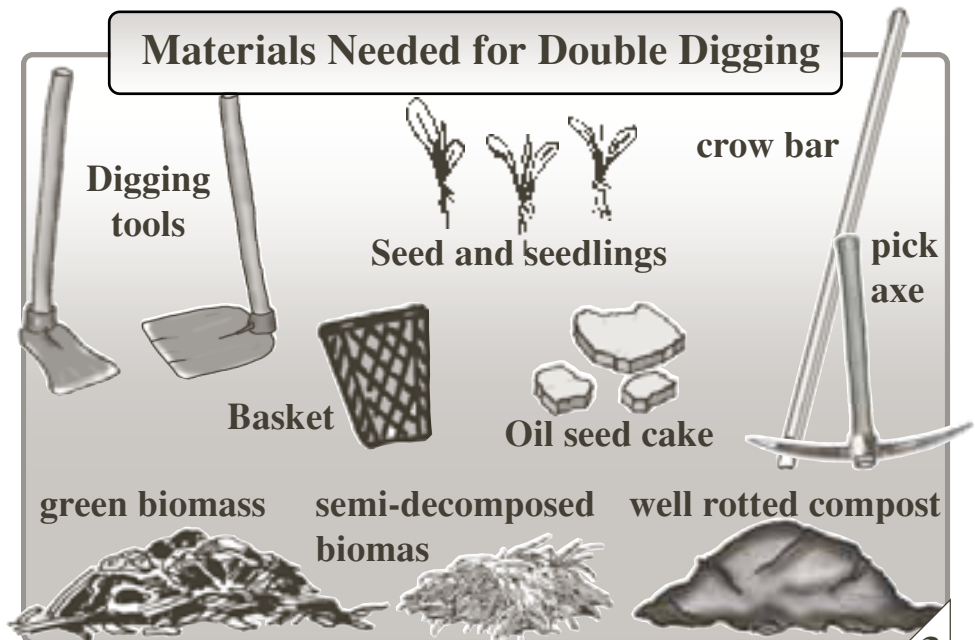
How to do Double Digging ?

With double digging at first there is more labour, but this can give up to 4 times the production of normal digging, so there is a good return on labour. Also, you don't have to dig again for 3-4 years afterwards. If double dug beds are mulched well and regularly, they may never have to be dug again. More information about this method is given in the chapter called *Mulching*.

Where to do Double Digging ?

- where the soil is poor or shallow
- where roots can't grow deep
- in vegetable growing beds
- in very stony soil

Materials Needed for Double Digging



When to do Double Digging ?

Beds can be dug any time. If you have a rainy season, near the end of this is best as there's still plenty of moisture in the ground and plenty of biomass available.

How to make beds with Double Digging

1. Digging out the Beds

- Beds are 4 feet wide, and can be as long as you need in the space that you have available.
- First dig out 6-12 inches of soil and keep on the side (the deeper the soil, the deeper you can dig).
- Then dig the same depth again with the crow bar or pick axe, but don't remove the soil, just leave it in the bed.



**Vegetables
planted in
beds which
are 4 feet wide**

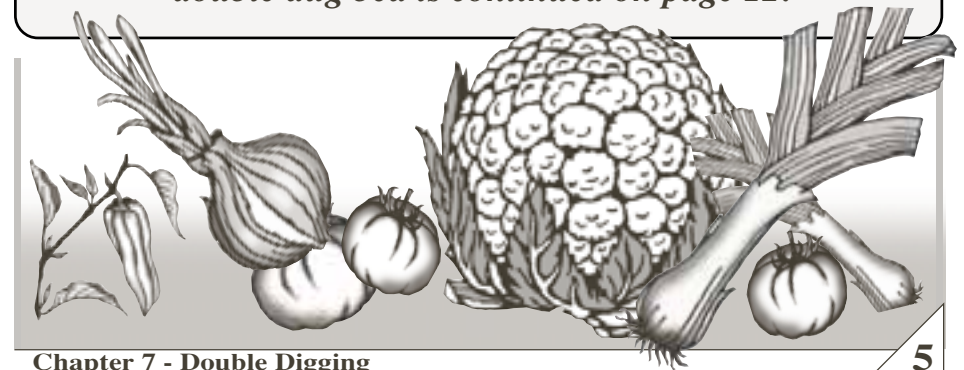
2. Filling in the bed

After digging the soil, it is replaced in layers with biomass.

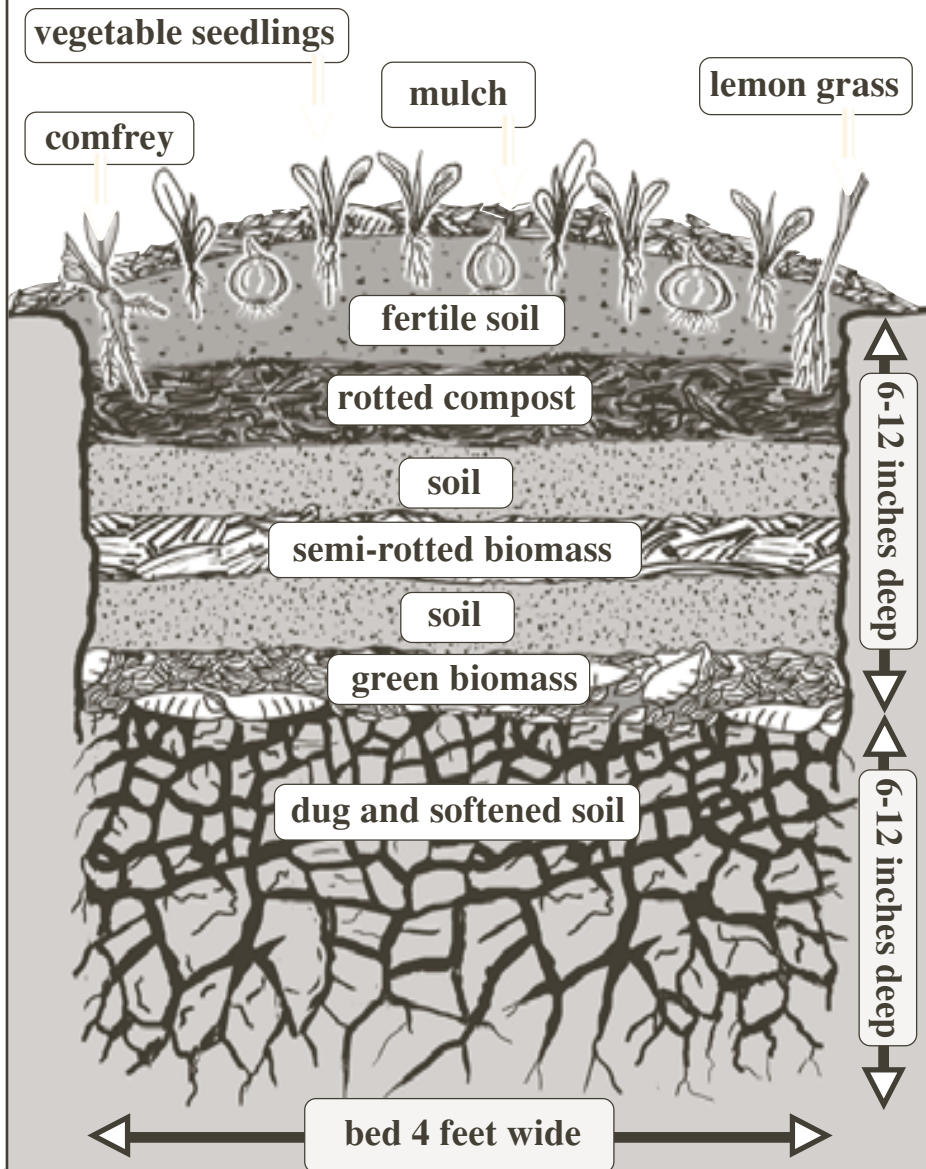
- First put a 6 inch layer of green biomass on top of the lower layer of dug soil.
- Then on top of this put a 3-4 inch layer of soil.
- Then put in a 6 inch layer of semi-decomposed biomass.
- Then put in another 3-4 inch layer of soil.
- Then put in a thin (2 inch) layer of well rotted compost.
- Finally, put all the remaining soil back on top, mixed with well rotted compost, and raked to a fine bed.

Mixing ash, oil seed cake, hair, bonemeal, etc. in with the layers of soil will increase the fertility even more. Because all this compost is mixed into the deep layers of soil, it will give nutrients to the plant roots for a long time.

The method of planting seeds and seedlings in a double dug bed is continued on page 12.

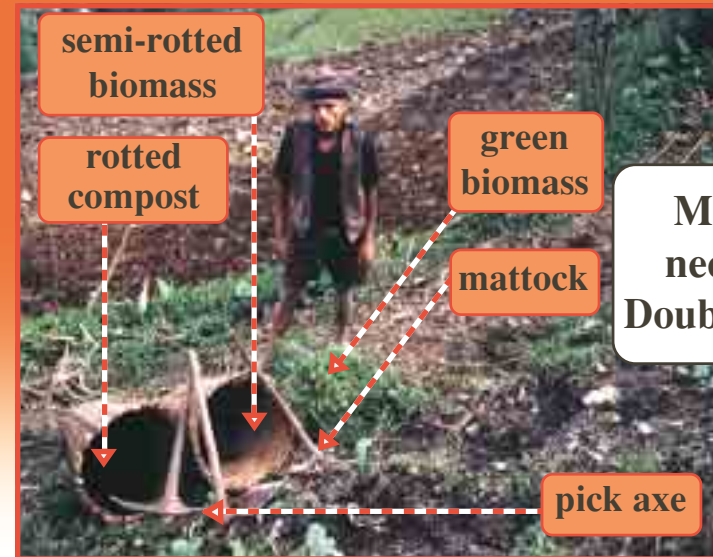


Cross Section through a Double Dug Bed



Let's See

How to do Double Digging



Materials needed for Double Digging





Use a pick axe or crow bar to dig another 6-12 inches, without removing the soil



Then put 6 in a inch layer of semi-rotted biomass

Then fill in. First put in 6 inches of green biomass, and cover with soil



Then another 3-4 inch layer of soil



Then add a 3-4 inch layer of soil



Then put in a 2 inch layer of well rotted compost





In the fertile soil of a double dug bed, plants are healthy and can protect themselves from many pests and diseases. In the bed, plant vegetables with a variety of colour, leaf shape and texture, and scent to protect against insect pests.

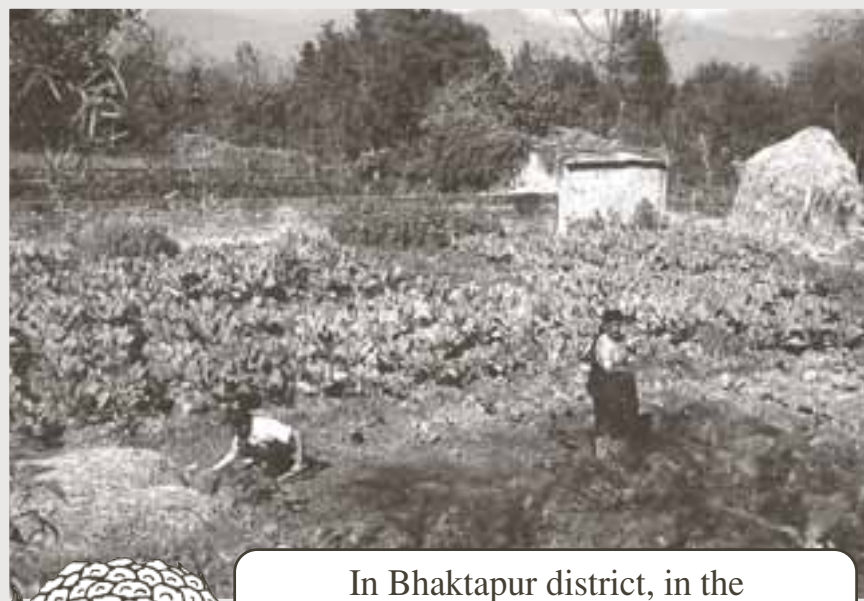


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3. Planting Seeds and Seedlings

On the raised bed after the top soil has been raked fine, any type of seed or seedlings can be sown or planted. Water well after planting. Then add mulch, taking care to cover the soil but not the seedlings. Adding the mulch protects the soil from rain, wind and sun, and conserves moisture for a long time.

The double dug bed is now complete. Apart from growing vegetables, this can also be used as a fruit nursery or for planting other types of crops.



In Bhaktapur district, in the Kathmandu valley of Nepal, there are many farmers who practice double digging and earn good cash from selling vegetables in the nearby city

Double digging can give 4 times the production of normal beds. The beds don't need to be dug again for 3-4 years



Maintenance

How to maintain Double Digging

On double dug beds, irrigation and weeding should be done as required. The more dense the vegetable seedlings and the mulch are, the less weeding needs to be done, and the more moisture remains in the soil. The chapters called *Mulching* and *Mixed Vegetable Gardening* give more information about this.

Beds that are well dug and well composted don't need digging for 3-4 years. But if new mulch is added thickly twice each year, and compost or liquid manure added from time to time, then it is possible never to have to dig again.

If we think about our work we can make many jobs easier and more productive. Let's use this method to make the soil more fertile and increase yield !



Farmers' Experience

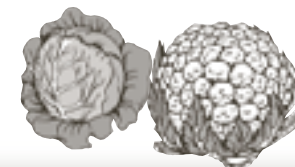
Mrs Sarda Khadka and Mr Arjun Jangam

From Nepal, Bhaktapur district, Dadhikot - 4, Mrs Sarda Khadka and Mr Arjun Jangam have experience in double digging working at AAA farm. Now let's hear their story.



Sarda Khadka and Arjun Jangam

“ We started learning the double dig method in 1994. Beds are made by digging the soil 2 feet deep, and as long as you need. The soil is arranged in layers mixed with leaf litter and compost. We also added ash and oil seed cake to the layers of soil. In the double dug beds, we haven't had to dig again or add compost for at least 3 years, often more. The green biomass rots slowly and vegetables grow really well. We dig most of our own beds this way, and we also give training to farmers in the local villages. Then together we have a cooperative to sell the vegetables in the Kathmandu markets. Buyers say that vegetables produced in this way are also more nutritious and tasty. ”





Read On !



Subjects Related to Double Digging



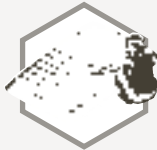
Integrated Pest Management chapter

Farm production is reduced by many types of insect, disease, weed, etc. In this chapter information is given about using local resources to prevent these pests



Fruit Nursery chapter

In this chapter information is given about how to make a nursery for grafting or budding local fruit varieties



Mulching chapter

Mulch keeps the soil covered, keeps weeds down and conserves water. Information on how to mulch the soil is given in this chapter



Vegetable production, Kitchen Garden and Mixed



Vegetable Growing chapters

How to make and manage a home vegetable garden for permanence, ease and simplicity ? Information about how to produce many types of fresh vegetables with less work is given in these 2 chapters

