

What is Mulching ?

The Farmers' Handbook - "Near The House 1", Chapter 6 - Mulching



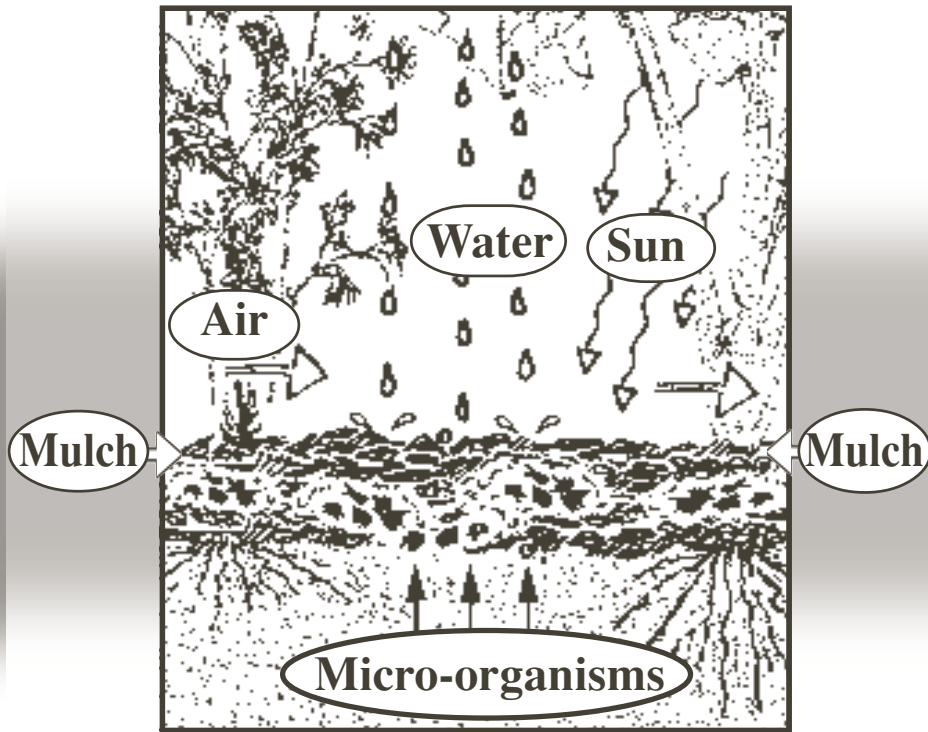
*Purna Bahadur
Nepali's mulch bed*

We farmers have to work hard for food to eat and clothes to wear. But when we can produce enough from this work, then we can live well. For farmers, the foundation of our wealth is the soil. If soil is washed away or becomes poor, how can we grow food to eat ? We farmers, who work and play with the soil, must also learn to love the soil. One method of loving, caring for and respecting the soil is called ***mulching***.

Mulching is a method of using cut leaves, straw, leaf litter etc. to cover the bare soil while still farming and growing crops on it.



Why do Mulching ?



There are various problems if soil is left bare. Rain will wash soil away, and the sun will dry it out. Wind will dry out and blow away the soil. The beneficial organisms living in the top soil will also be lost. All these reasons cause soil loss and damage, and to remake the fertility in the soil then takes extra work. So mulching is an important technique to prevent these problems happening from the start.

How to do Mulching ?

The main objective of mulching is to keep the soil covered while farming it. There are many types of mulch but they all share this objective. Mulch is usually made from biomass (leaves, straw, etc.) but where spare vegetation is uncommon, stones covering the soil have the same benefit.

There are 2 main types of mulching :-

1. Temporary mulch
2. Permanent mulch

Fresh green or dry leaves, any straw, stones, cardboard, etc. are all useful to use as mulch

1. Temporary Mulch

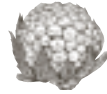
With temporary mulching, the ground is kept covered for some time only. Mulch made of green or dried leaf litter, straw, etc. can be put on the soil during the fallow period, or mixed with compost and ploughed in. After crops have been planted they can also be mulched. Potatoes, garlic, onions and various vegetables benefit from a mulch after planting. The mulch will rot as the crops ripen. Mix the mulch with the soil by ploughing or digging in, after the crop has been harvested.



2. Permanent Mulch

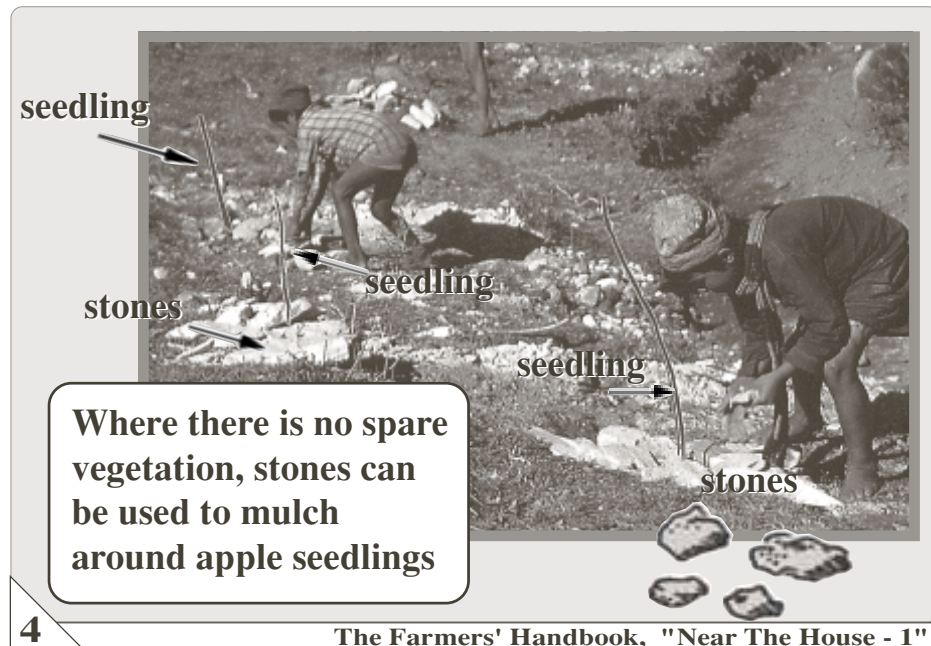
For a permanent mulch, layers of well rotted compost, semi decomposed biomass, and a thick layer of fresh biomass are put on the soil, and seed and seedlings planted into this. In this method, after establishment new mulch (green biomass) is added only twice a year, and the soil never needs to be dug.

Making a Permanent Mulch



a. Preparing the mulch

- If necessary, dig or plough the soil one last time. If the soil is soft and fertile, this should not be necessary.
- Cover the soil with a thin layer of well rotted compost.
- On top of this put a 6 inch layer of dried or semi decomposed biomass, such as straw, leaf litter, etc. After putting down each layer soak with water if possible.



- On top of this put 6 inches of fresh, green biomass e.g. from weeding the field or trimming the hedge. Soak with water again.
- Now we can plant in the mulch bed

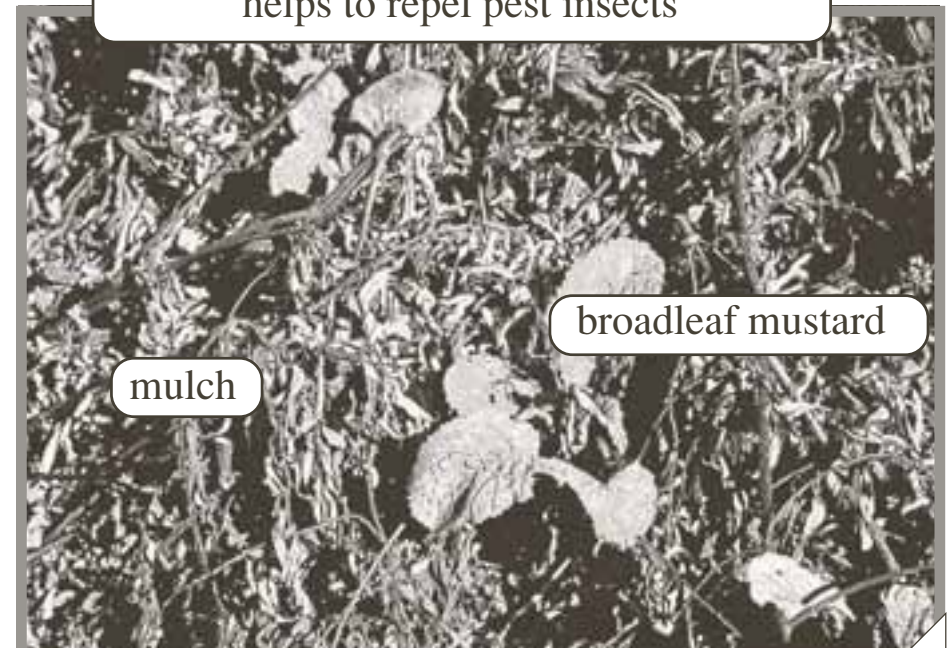


b. Planting Seed and Seedlings

- Using a sharp stick make a hole down through the mulch until the ground is reached. Move the stick to make the hole larger.
- Fill the hole half full with fertile soil.
- In this soil, plant seed or seedlings.
- Water the seedlings well.



In the kitchen garden, a wormwood mulch makes good compost and also helps to repel pest insects

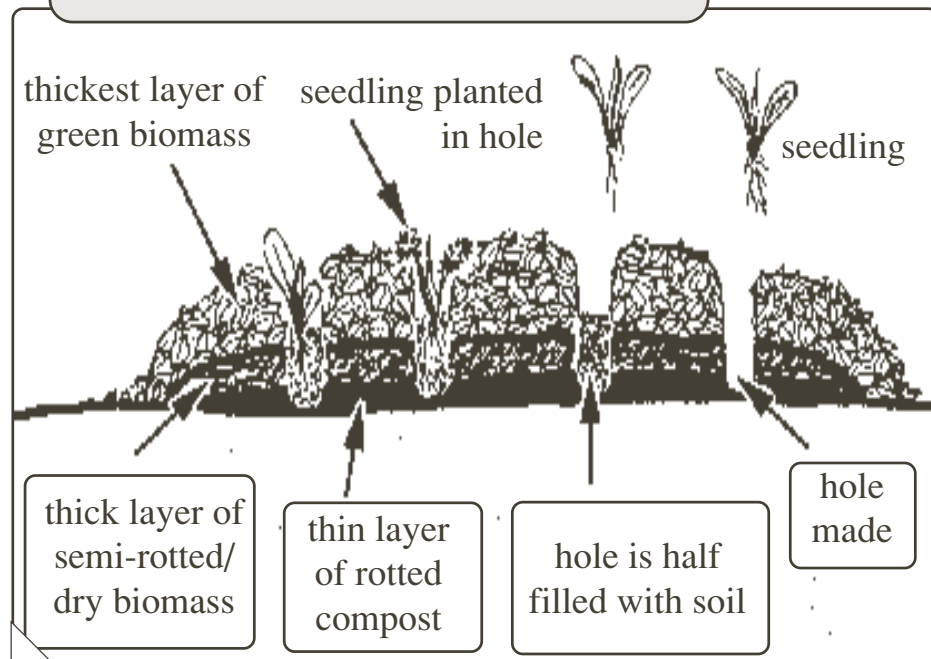


Best time to mulch

At the start of the rainy season the soil becomes wet and often heats up, causing the soil to let off steam. If a thick mulch is applied at this time the soil cannot breath properly and steam cannot escape. This can cause many types of pest and disease to occur. But if the mulch is put down and well watered 2-3 months before the rainy season, the soil and the mulch become balanced and these problems do not occur.

The best time to start a mulch is near the end of the rainy season. By this time the steam in the earth has escaped but there is still moisture in the soil to help the mulch break down into the soil. This moisture will be conserved by the mulch, and be usefull for the crops for many weeks or even months.

An inside view of a mulch bed



Let's See

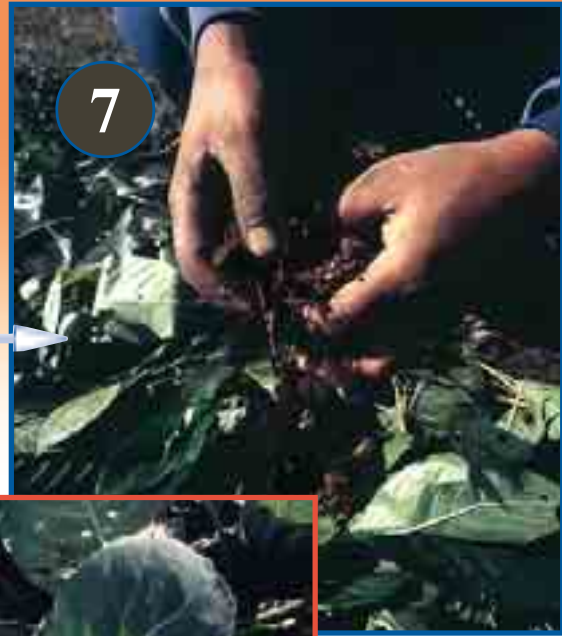
How to do mulching





4

Then, spread an even thicker layer of green biomass on top



7

Half fill the hole with fertile soil.



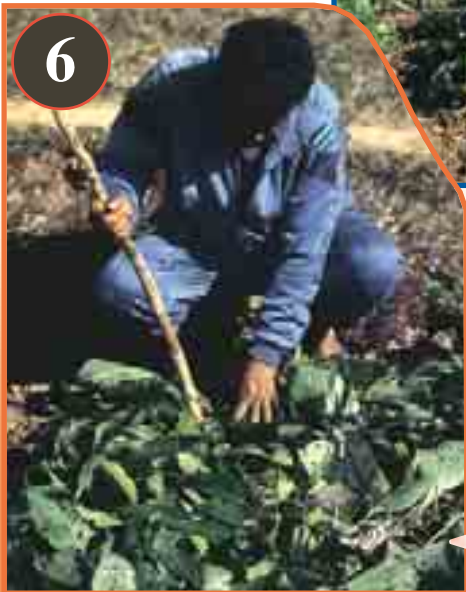
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Now the mulch is ready and can be planted



8

Then, seed or seedlings can be planted in the soil.



6

To plant, first make a hole down to the ground level.

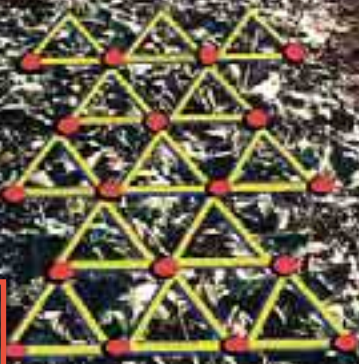


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Seedlings planted in a triangle. This saves space.

When seedlings are planted in a triangular pattern more seedlings can be planted in a smaller space

10



11

At first the bed should be well soaked with water



12

After 6 weeks the vegetables in the mulch bed are growing well

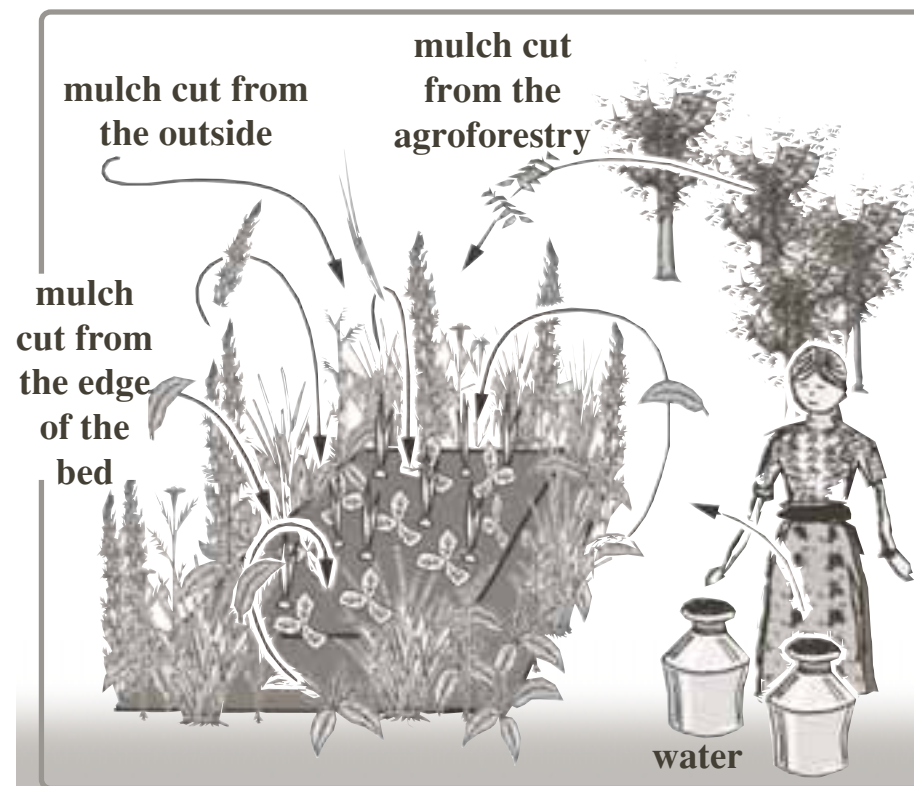


Maintenance

How to maintain the mulch

Maintenance of the Mulch

- water as necessary
- put on new green biomass about twice a year
- plant companion plants like lemon grass, comfrey, marigold, basil, wormwood, etc. around the bed
- having agroforestry or edge trees nearby makes it quicker to cut the new mulch



The Benefits of Mulching

1. **Mulching** stops the sun drying out the soil;
2. **Mulching** keeps the moisture in the soil so reduces the need to irrigate;
3. **Mulching** improves as well as protects the soil;
4. **Mulching** prevents weeds growing so reduces the need to weed;
5. **Mulching** keeps a balanced temperature in the soil. "Balanced" means not too hot nor too cold, and regular. This is good for plants' roots;
6. **Mulching** helps to prevent spread of pests and diseases. If water splashes on the soil, it can carry naturally occurring diseases in the soil onto the underside of leaves, where the diseases can cause damage;
7. **Mulching** feeds and protects the organisms in the soil (earthworms, bacteria, etc.);
8. **Mulching** also fertilises the soil;
9. **Mulching** prevents root crops such as potatoes, radishes, etc. from turning green;
10. **Mulching** makes use of waste resources such as banana leaves, uprooted weeds, etc. by recycling them;

11. **Mulching** reduces the need to dig and plough;
12. **Mulching** works with the principles of nature and ecology;
13. **Mulching** is beneficial for later crops in a rotation;
14. **Mulching** saves time because digging, weeding and irrigation are reduced or not needed.

See the comparison between mulched and un-mulched farming



How is the mulched corn ?

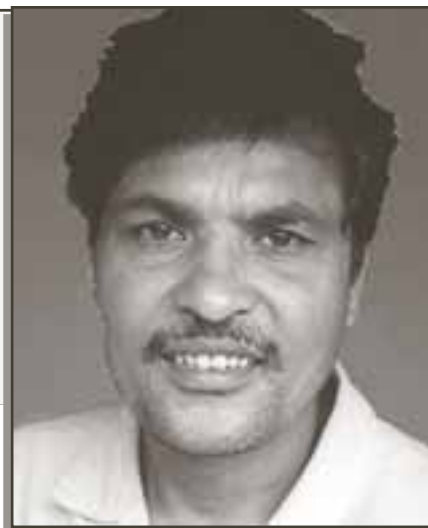
How is the un-mulched corn ?



Farmers' Experience

Mr Purna Bahadur
Nepali

From Nepal, Surkhet district, Gumi - 4, and member of "Samaj Mukti" farmers' group Mr Purna Bahadur Nepali has made mulch beds. Now let's hear about his experience.



Purna Bahadur Nepali

“ I learned mulching from the Homestead programme (Jajarkot Permaculture Programme, JPP). For vegetable gardening mulching is a really good method, and very easy. All the waste straw, weeds, leaves, sweepings, etc. are used on it. You don't have to do much weeding, the crops need less watering, and the soil becomes more fertile. Before starting I gave the field a good plough and then put down rotted compost. On the compost I put the mulch and made holes into it . I half filled the holes with fertile soil, planted the vegetables and watered well. Because I mixed many species of vegetable there were also less pest and disease problems. Whenever anyone has come come to see, I've been teaching them this method. ”



Fertile Soil

① *Farmer brothers and sisters, lets make fertile soil,
Let's keep green, Mother Nature's bare soil,
Ha hey, Mother Nature's, Mother Nature's,
Mother Nature's soil green*



② *On the terraces the rice drips golden,
On the bunds green fruit trees fruiting,
Ha hey, fruit trees fruiting, fruit trees fruiting,
Fruit trees fruiting,*

③ *Farmers are happy gathering the crops to fill stores,
Relaxing in the homestead, if they left, where would they go,
Ha hey, farmers, if they left, where would they go, if they
left, where would they go?
If they left, where would they go?*



④ *Farmers work in the fields, sweating from their brows,
Without work, who will feed them, what will go to their
stomachs?
Ha hey, farmers, what will go to their stomachs, what will
go to their stomachs?*

What will go to their stomachs?



Written by Krishna Panday



See how well the
potatoes grow
under the mulch



Read On !



Subjects Related to Mulching

Mulching chapter

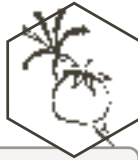


Fruit Tree Planting chapter



After planting fruit trees various companion plants can be planted around the base. Mulching is also useful. How these, and other techniques, give more benefits is explained in this chapter.

Kitchen Garden chapter



Mulching is very useful in successful vegetable gardening. Information about this and other easy methods to home-produce healthy vegetable at low cost is given in this chapter

Mixed Vegetable Gardening chapter



Grow various types of vegetables with less weeding, watering and other work, and harvest from 3 weeks to 6 months after planting. Information on this easy technique is given in this chapter