

Carbon Neutral Farming

How does organic farming cut down our Carbon footprint?

Farming in general produces a large releases a large volume of carbon into the atmosphere every year. The majority of this comes from tillage of the soil. During the growing season a plant will take carbon out of the atmosphere. This carbon will be stored in the soil and then released into the atmosphere when the land is ploughed and prepared for the following year's crop.

Conventional farming techniques, driven by the rising price of oil, favour the minimum tillage approach. This involves high horse powered tractors pulling large machines which can produce a seed bed in one or two passes, without the need for ploughing. This may look like a good thing as no ploughing means less carbon is being released. However, (as anyone who has ever gardened before will know) perennial weeds such as Couch Grass are a significant problem and without ploughing the root systems of such weeds become ever more established. These weeds will compete with the crop and reduce the yield.

To deal with this the conventional farmer has to use ever more chemical spray to control his weed problem. Chemical production uses vast amount of energy to produce, thus increasing his carbon footprint. In addition to this the most conventional farmers also need to use chemical fertilizers. These are directly connected with the price of oil and require a lot of energy to produce and as a result are a significant factor in carbon and global pollution.

Organic farming relies heavily on rotations to build fertility in the soil. This is done through the use of crops such as red clover which builds fertility by extracting Nitrogen from the air and storing it in the soil. As a result of this rotation it means that around $\frac{1}{4}$ of organic land is not being worked and so less carbon is being released.

Other organic methods of organic cultivation is the 'No Dig' method. Although not realistic on a larger scale this can be put on to practice on an allotment scale of growing. Using this technique the aim is to never dig your garden. Instead each new season you simply apply a new layer of compost over the entire garden which you plant your seeds in.

This method keeps the carbon locked in but other advantages are that the weed seed bank is exhausted in the top 1" of soil. Never digging means that you never expose new weed seed locked in the soil to the light and air so it can't germinate. Some weed seeds can survive up to 60 years where they remain in suspension waiting for the right conditions to germinate!

Another advantage of this method is that you don't disturb the complex network of tunnels made by the humble earth worm so aiding the drainage and organic material breakdown of matter in your garden. Why not Google 'earth worm facts'? Finally the no dig method saves a different type of energy....yours! As so many back injuries are from digging in the garden we hope the organic approach puts less strain on all our spines!!