

Fertiliser Vs Compost

In the never ending search to improve agricultural returns, create better investments, higher yields and healthier soil, the question commonly turns to fertiliser and compost. However, there is a lot of confusion around as to which product fulfils which purpose and when one should be used over the other. To help you along your way here's everything you need to know about fertiliser vs compost.

What is the difference between fertiliser and compost? Can one replace the other? Which one should you be using?

Fertiliser is a soil additive that contains a number of key nutrients which a plant needs to grow. These nutrients, at a basic level, are Nitrogen, Phosphorus and Potassium. Nitrogen, for stimulating leaf growth; phosphorus, for healthy root/flower/seeds/fruit development; and potassium, for strong stem growth and promoting flowering.

But if plants have been thriving on our planet for hundreds of millions of years without human intervention, why do they suddenly need fertiliser to thrive? The truth is that they don't actually need us, if we left the plants alone.

However, we grow plants (crops) for a purpose. The plants take the nutrients from the soil to create fruits, grains, vegetables etc. We then take that produce away from the land to eat. Traditionally, the produce would fall to the floor, along with leaves, fallen branches, etc. It would then return the nutrients to the ground. Without this happening (and with little natural manure and other additives to sustain it) the soil slowly begins to become nutrientless. This is where fertiliser comes in to replace those lost nutrients.

Fertiliser is specifically focussed and targeted nutrients towards exactly what the plant needs. This is why there are so many different blends of fertiliser, because each plant species requires very specific amounts of different nutrients.

What is Compost?

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What is Fertiliser?



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What is Compost?



Compost is that fallen nutrient. It's all the fallen leaves, food waste and branches which would otherwise find its way into the soil and replenish the ground's nutrients in a natural cycle.

Compost contains similar nutrients to that found in fertiliser, but it's stored in organic matter. When you add fertiliser to the ground, the nutrients are available to the plant instantly. Compost, on the other hand, is a much slower release of nutrients, taking days/weeks/months to fully expel its nutrients.

Which is better?

Fertiliser has a long standing environmental impact that you don't get with compost applications. Fertiliser comprises "readily available" nutrients, which saturate the soil quickly and can be absorbed by the plants instantly. This is a great aspect of the additive however, it means that the nutrients are also very easily removed from the soil. Heavy rainfall or a high water table can mean the nutrients are depleted from the soil incredibly quickly. The then increased nutrients can cause problematic and environmentally devastating algal blooms in nearby fresh water areas. In addition, fertiliser based chemicals have been known to find their ways into drinking water, causing a number of health complications in nearby populations. Fertiliser also does nothing to address problems with soil health; it does not address water retention or drainage, erosion or heavage.

Compost may have a slower release rate, and may require a slow transition into a primarily compost-based additive process. However, in the long run it produces higher quality, larger yields and a more hardy soil. In a study by WRAP, it was clearly demonstrated that *"repeated [annual] applications of compost are a valuable means by which farmers can improve soil quality, potentially leading to increases in crop yields (through improved nutrient and water acquisition) and improved gross margins (from greater yields as well as less reliance on manufactured fertiliser and reduced energy costs through easier cultivation)"*.

They based these conclusions on a long term study (9 years) of green compost applied to a number of agricultural sites. They posted positive results in microbial biomass, earthworm population and nutrient supply, as well as decreased soil bulk density. They value the additional nutrient supply at £55-160/ha when considering the value of fertiliser saved and the cost of spreading the organic materials.

The report clearly highlights the value of an "integrated nutrient management plant" utilising both compost and manufactured fertiliser to improve agricultural returns and longevity.