

# Sites and Soils for Polytunnels



**Farm  
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Not all sites and soils are suitable for a polytunnel. It's a good idea to assess possible sites and soils before erecting the tunnel. In this guide, we explain how to prepare your chosen soil before starting to sow and grow.



## Assess the site

**Aspect** Ideally, your polytunnel should be on a south facing site which can get the full benefit of all the sunlight which is available in your local area. Most people have little choice in this respect and are limited by where they live, but it's still useful to place your tunnel where it can make the best of the sun on your property, given that light levels often limit crop production in northern latitudes.

**Impact of nearby trees and buildings** For the same reason as above, it is very important to site your polytunnel where it is not shaded at any part of the day by tall buildings or trees.

**Exposure to wind** Polytunnels can be very easily damaged in strong winds. Tunnel covers can be shredded in minutes, with devastating impacts on crops where the wrong type of tunnels have been inappropriately sited. Some sites are naturally sheltered, but where you are concerned about strong winds, you should consider other, more sheltered sites if you have any, consider erecting a windbreak to reduce potential damage and consider the more robust types of polytunnel such as Keder™ houses and even planticrubs™.



## Prepare the site

Where windbreaks and drainage systems are needed. It is always best to install these prior to erection of the polytunnel. Soil preparation can be done before or after the polytunnel is installed.



## Assess the soil

**Drainage** A well-drained site is essential. If you dig down to a depth of 30 to 40 cm find water or waterlogged soil at the bottom at any time of year, then you have a problem. You must install a drainage system around the polytunnel if you need to, in order to ensure that the soil remains moist but not waterlogged at all times of year. If you have an intractable drainage problem and have no alternative site, then consider building raised beds in order to give yourself sufficient soil depth above the regular water table.

**Physical properties** Aim for soil which is un-compacted and friable, with a good, structure to allow free movement of air, water and plant nutrients throughout. Using a spade, dig down to at least 40 cm depth at various points in the soil where you plan to put the polytunnel and assess the extent to which you will need to cultivate the soil to remove compaction and hard lumps of soil.



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**Chemical properties** Sample your soil and test it in order to determine its chemical properties. Sample by taking around 10 to 15 small trowel-fuls of soil down to 20 cm depth across the whole polytunnel area. Put all samples in a bucket, mix them together thoroughly and send about 300 g of this soil off to a good soils laboratory (e.g. SAC Consulting). Test for soil pH and crop-available phosphate, potash and magnesium. You may also want to test for soil organic matter content, or trace elements (particularly if the site has been in long-term cropping). You should also test for organic contaminants and/or potentially toxic elements if you plan to erect the tunnel on a site formerly used for industrial purposes or intensive pig or poultry production.



**Biological properties** Whilst no tests are required to determine soil biological properties, it is useful to make basic assessments of soil health. High numbers of earthworms, other small soil organisms such as springtails, beetles and mites and a sweet, earthy smell indicate a living, healthy soil, which is likely to be a good place for crops to grow. Soils which have been under long-term pasture are often the healthiest, whereas those which have been left fallow, particularly under black polythene or following repeated herbicide applications are often the least healthy and most in need of improvement.

## Prepare the soil

**Removal of compaction** Dig the soil carefully to a depth of 30 cm and (depending on the existence of hard layers deeper down) possibly double-dig it to a depth of at least 40 cm in order to identify and break up any hard lumps and compacted layers. Leave the soil with a fairly coarse tilth until you are actually ready to sow, at which time you can form a finer seedbed. Once you have ensured that minimal or no compaction is present, aim to reduce future cultivations, since excessive cultivations are recognised as being detrimental to soil health.

A good starting point for any new polytunnel would be to apply dung or garden compost across the whole polytunnel at around 3 to 6 kg/m<sup>2</sup>

**Removal of perennial weeds** Remove all perennial weeds before sowing and planting starts. On a small scale, you are best to simply remove these weeds through hand digging, although you could consider applying the herbicide glyphosate to weaken established perennial weeds such as docks, nettles and couch grass at least 3 weeks before digging them out.

**Liming** Only apply lime if the results of soil testing show that you should. Lime is added in order to ensure that soil pH is maintained at the optimum for vegetable production of around 6.5 (or 6.0 on organic and peaty soils). Lime should ideally be added in the autumn, which will give it time to work before sowing and planting commences in the spring.

**Addition of bulky organic manures and fertilisers** Based on your soil test results, add fertilisers to ensure that your soil is at the target status of “High” for phosphate, the upper half of “Moderate” for potash and “Moderate” for magnesium before you start cropping. You may need help in deciding how best to achieve this using a combination of bagged fertilisers and bulky organic materials.



However, a good starting point for any new polytunnel would be to apply dung or garden compost across the whole polytunnel at around 3 to 6 kg/m<sup>2</sup>. Do not apply more than that unless soil test results suggest that there is a lack of nutrients. Most crops (all other than peas and beans) will need additional nitrogen in the form of liquid feeds.