

Polytunnel Growing

Introduction

In our northerly climate protection from the elements can mean the difference between being able to produce a crop and not. This can be achieved more easily by growing in a polytunnel.



The available size, price, construction specification etc of these structures are very varied but as a general rule you should purchase as large a structure as you can afford and what your site will accommodate.



Particular attention should be given to siting and shelter. Wind and snow are the main enemies of polytunnel constructions with both potentially able to destroy a structure in a very short time. Tunnels on exposed sites should be constructed only after erection or planting of a suitable shelter structure - be it fencing, hedge etc. The structure itself should be made from the highest grade of materials possible with particular attention

being paid in exposed areas to the material specification and hoop spacing (which should be closer together to give a stronger structure together with use of crop bars for extra bracing). Seek the manufacturers' advice where possible and speak with others who already have polytunnels.

Planning your cropping

The use of polytunnels can extend your growing season considerably whether with early cropping at the beginning of the season or extended cropping at the end. It may also enable you to grow produce which would otherwise not be viable in our more northerly climes e.g. tomatoes, cucumbers etc as well as giving added protection to high value crops such as strawberries, raspberries, salads etc. As a polytunnel is a big expense, regardless of business size, making best and constant use of the environs it offers makes sense.

It should be noted that temperatures in summer may be too high for some crops and in winter too low – coupled with low light levels. Effective ventilation, which can be achieved by the design and siting of the structure, can reduce the former, as can use of shade netting. Low temperatures can be countered by the use of proscribed heaters and extra lighting can be provided by using specialist lights/lamps etc. Both these methods will incur extra costs and consideration needs to be given to the type of crops to be produced during these times, their growing requirements and market demand.

Growing crops “out of season” can usually guarantee higher prices but it may also happen that because these crops are grown in a “forced” environment some of their usual traits e.g. flavour, shelf life etc, may be compromised. Salads can be grown under polythene for most of the year and new potatoes can command high prices at the beginning of the season as well as at Christmas time. For an early season crop (May harvesting) potatoes should be planted around end Jan/Feb in a polytunnel and in September to give a Christmas crop.

Consideration should also be given to early, high value crops such as asparagus. However, unlike salads and potatoes, this will have to stay in the ground throughout the year, and in a restricted space like a polytunnel, this might only be acceptable for own use cropping.



Winter Salad Crops

Autumn is the time to be thinking ahead to the leaner days of winter and the provision of fresh green leaves at a time when root vegetables are the diet mainstay. "Oriental" greens have increased in popularity over the past years and these lend themselves very well to the cooler, temperate, growing conditions of the Highlands and Islands.

These vegetables are also packed with vitamins and minerals containing almost three times more calcium, potassium and iron than ordinary greens. These leaves can be put together to give a different taste to ordinary salads or added to stir fries and pasta. Most of these plants are "cut and come again" type i.e. they can be harvested over a period without losing the entire plant, which then re-sprouts to provide you with further delicious leaves within a few weeks. It is best to harvest the leaves when they are young as that is when they are at their most tender and nutritious – it also provides leaves in 6-7 weeks as opposed to the normal 16 weeks for more mature plants.

The following are some leaves to try:

- Mibuna** - Strap-like leaves with a slightly stronger flavour than the prettier mizuna. Can also be used in stir fries.
- Mizuna** - Spiky, serrated green leaves with a slightly spicy taste. Fast growing.
- Mustard** - There are two types and colours – red and green. As might be expected the red one is hotter than the green. Green mustard leaves are amongst the most nutritional vegetables available.
- Pak Choi** - Can be used as mature heads – like cabbage – or as baby leaves in salads. Crunchy, green leaves with slight cabbage flavour. Flowering shoots can also be eaten.
- Tatsoi** - Long harvest period and slow to bolt. Good cooked or in salads.
- Perilla** - Also available in red or green. The red variety has striking deep red/purple leaves – adding colour contrast to salads. Slight curry-like taste, can be bitter. Good for salads or adding to soups.
- Corn Salad** - Slow growing but comes into its own in the winter. Fairly bland taste.
- Endive** - Can be either a summer or winter leaf. Fairly bitter taste.
- Kale** - Apart from the usual green curly variety, there is a red leafed variety – *Redbor*, and the dark blue-green - almost black actually! - leaves of "*Black Tuscan*". All varieties overwinter well in this area the young leaves can be added to salads and the more mature leaves cooked for use as a cabbage type vegetable or mixed with mashed potato, pasta etc.
- Radicchio** - Late summer/autumn plant which can also over-winter in more sheltered environs. Various colours but the most common is deep red. Slightly bitter taste.



Winter Maintenance

If your polytunnel is relatively empty at this time of the year, choose a sunny, frost free day and give the inside of the tunnel a thorough clean – after first covering any crops still in situ. There are a number of proprietary chemicals which you can use for this – a weak solution of disinfectant can be used - but horticultural soap is environmentally the kindest. To ensure that you do not harbour overwintering bugs and diseases in the structure you should wash the entire structure thoroughly, including benches, tables etc – not forgetting the supporting structure – to remove all traces of algae, mildew build-up etc. Also remove any vegetation which has not already been cleared away. If the structure is close to trees the outside cover may also require a clean – a power washer is good for this (but wear waterproofs unless you want to turn into an icicle!) – you will be amazed at the additional light that comes flooding in from a clean cover!

Pay particular attention to the polythene cover in extreme weather – any small tears or holes should be patched up immediately using the correct repair tape. Any small holes or tears can soon become catastrophic in high winds – remember it is better (and certainly cheaper) to cut away and lose a cover than have to replace a damaged structure. This is also the time – and weather – to be looking seriously at your wind protection measures. If you already have such protection you should check that the posts are secure and able to withstand the winter onslaught, and that your shelter netting – whatever its make or characteristics – is also secure and undamaged.



Pests – and how to control them

Just because crops are under protective cover i.e. polytunnel, glasshouse etc, does not necessarily mean that they are protected from pests, disease etc. In some environments pests and diseases are **more** prevalent. The following is a small selection of some of the most common pests encountered in the warm and dry atmosphere of polytunnels and greenhouses.

Aphids – There are many kinds of aphids with as many colours!

They are also not solely restricted to being “inside” pests as many of them are also major pests in field production. However, they are easier to see and identify in the confined spaces of protected cropping. All aphids weaken plants by sucking their sap/juices, deforming growth and spreading viruses. These common pests are prolific breeders so immediate remedial action is required.

They can be difficult to spot, especially the green kind, but they especially like new growth and live in colonies on the underside of leaves, stalks etc. Physical removal by hand is possible if the area is not too large – wash them off using a cloth, tissue or spray, but repeat treatments will be necessary. Spraying with jets of water can also be effective (if messy!) as can spraying with horticultural soap (NOT *washing up Liquid!*), rape oil or derris. Aphids have a number of natural predators e.g. ladybirds, lacewing larvae, hoverflies etc, so encourage these into your environment by providing nesting boxes etc

Red Spider – These are just as it says – red spiders! The first signs of an attack may be yellow mottling of leaves and, if it is a heavy infestation, you will see fine cobwebs festooning your plants with the red spiders zipping around. The spiders prefer hot dry conditions, so spraying the plants regularly and damping down the polytunnel/greenhouse floor, especially during hot spells, will prevent the mites from getting established. There is also a biological control, their natural predator, another mite called *Phytoseiulus persimilis*. To prevent future infestations, you should disinfect and wash down all surfaces in the winter.

Thrips – These are tiny flies which lay their eggs on plants in protected environments – they love dry, hot conditions. They attack the tops of leaves, weakening plants and spreading viruses, with affected leaves having a mottled silvery appearance with black dots. As they are partial to dry, hot conditions the best course is to mist plants, dampen down floors and water regularly, as well as good ventilation. There are a number of sprays available.

Whitefly – Tiny moth-like insects on the underside of foliage where they feed. Affected leaves will become pale and curled. As these pests fly about they are easily caught with yellow “fly-catcher” cards hung above affected plants. These cards have a sticky surface and the fly is trapped by this. There is also a biological control available *encarsia* – but this requires a minimum air temperature of 18°C.

Vine Weevil – This pest has become the curse of all soft fruit production under polythene and is extremely widespread. Once established, it can be almost impossible to eradicate. These are small, brown, wingless, beetle type insects which mainly come out at night and eat leaves, with the larvae eating the roots.

They are soil-borne pests so vigilance is necessary to avoid introduction to an otherwise clean area. Action should be taken at first signs of a problem with pots being checked regularly for larvae. Plants will wilt suddenly (larvae damage) or leaves show signs of being eaten.

Very effective against the larvae (which is the time for action) is a biological control preparation with the trade name *NemasysH*. This worm requires a temperature of 14°C and only works against the larvae. Adult beetles should be trapped and disposed of. Grease traps can be effective in trapping the adult beetle from reaching plants.



Where do I find out more?



Books and publications:

The polytunnel book – fruit and vegetables all year round – by Joyce Russell 2011

How to grow food in your polytunnel all year round – by Mark Gatter and Andy McKee 2010

Gardening under plastic – by Bernard Salt (protective cropping methods including polytunnels) 1999

The polytunnel companion – by Jayne Neville 2006

A year in your polytunnel – calendar of tasks available from <http://www.firsttunnels.co.uk/guides.asp>

Polytunnel suppliers:

Highland polytunnels

01667 454875 www.highlandpolytunnels.co.uk

First Tunnels

01282 601253 www.firsttunnels.co.uk

Keder Greenhouses

01386 49094 www.kedergreenhouse.co.uk

Northern polytunnels

01282 873120 www.northernpolytunnels.co.uk

Scottish Crofting Federation

The SCF is the only member-led organisation dedicated to promoting crofting and it is the largest association of small scale food producers in the UK. Our mission is to safeguard and promote the rights, livelihoods and culture of crofters and their communities.

www.crofting.org