Novel plastic structures for growing plants for added profit.

The world of horticulture is being changed with cutting edge developments in polythene tunnels.

One development, for example, is the use of double skinning whereby an insulating air gap is created between two skins of polythene. With this system the tunnel is covered as normal except for that a double length of plastic is used and applied double thickness, but with the usual tightness. The outer layer is kept afloat by a small fan while the inner layer rests on the hoops. Controlled leakage of air prevents the bubble from bursting. The tunnel thus insulated can be heated or retains its warmth better. The double skin also means that condensation is reduced; as is sun scorch in summer.

Dr Norton, CALU's Horticulture Development Manager states that "these structures have numerous advantages but cost little more than standard tunnels - even the plastic has a longer life because the outer sheet is floating it does not suffer from the usual ultra violet damage over the tunnel hoops. These tunnels give a better season extension than normal tunnels."

Other developments include the development of anti mist and anti fog plastics to improve winter production and these may be specified with many manufacturers at little extra cost.

Even more interesting is the new spectral filter technology where the plastics control the quality of light entering the structure. For example an ultra violet blocking plastic prevents egg production in some insects and can reduce dependence on chemical sprays which is of interest particularly to organic growers. Other new plastic covers may favour different growth processes e.g. flowering. Dr Norton says "This technology is developing rapidly. At the moment, we do not have adequate production data but several tunnels are under trial at The Welsh College of Horticulture".