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Polythene for fruit growers

Frank Melville
POLYTHENE

for Fruit Growers

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Almost everybody has some contact with that versatile plastic polythene—or polyethylene as the Americans prefer to call it. It may be as a wrapper for a shirt purchased at the city store, as a vegetable pack in the supermarket, as a protection for new concrete or in a multitude of other uses in industry, commerce and the home.

Uses developed over the past few years have made it extremely valuable for many branches of the fruit industry.

Polythene is a petroleum derivative made from ethylene, the gas used for colouring citrus fruits. It is most commonly known as a clear, tough, pliable film, easily welded and moisture proof and is mainly used in this form in fruit growing.

A special feature of interest to the fruit grower is the ability of oxygen and carbon dioxide to pass through the film. Plants and fruit can be completely enclosed in the film without being suffocated.

Seed Storage

Its uses to the fruit grower start in the nursery.

Seeds required for raising stocks are conveniently stored moist in polythene bags. Apples, pear and peach seeds are kept in polythene in cool stores to provide winter chilling, citrus seeds to prevent drying while awaiting planting.

Where stocks are raised from cuttings, excellent callusing can be obtained by wrapping the cuttings in polythene for a period before planting out.

Budding and Grafting

Budwood used for propagating the young trees needs special care to prevent drying, especially as budding is normally done in the height of summer. Wrap the budwood in a sheet of damp newspaper, then in polythene and store in a cool place and it will keep in perfect condition for a week or more. Storing in a household refrigerator is ideal.

Grafting wood taken at pruning used to be buried in moist soil until spring. Wrapping in polythene and placing in cool store will give equally good results with no problem of grittiness.

Weather conditions at grafting time are unpredictable. If hot conditions with drying winds prevail the “take” may be seriously reduced. A worthwhile insurance is to cover the whole graft with a light polythene bag tied around the stock below the graft and keep it on until a satisfactory union has been obtained. Callusing of the cut surfaces is greatly encouraged.

An excellent example of the value of this method occurred last summer. Walnut scions imported from California were successfully grafted on to stocks at the Stoneville Research Station in January by means of this technique. Although the grafting was carried out in heatwave conditions a 60 per cent. take was obtained.

Wherever protection against moisture loss is required polythene is ideal. Citrus trees have been successfully transplanted during the summer by completely covering the newly set tree with a large polythene bag for a few weeks until it has become

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established. Polythene is also being increasingly used by nurserymen for packaging trees and other subjects.

In strawberry growing polythene has found use as a mulching material. Black polythene strips are used to completely cover the ground, preventing weed growth and conserving moisture. The strawberry plants grow through slits in the film. So far this method is little used here.

A very different use of polythene in more massive form is for irrigation pipelines, these are non corrosive, easy to handle and have some advantages over iron piping.

Fruit Storage

One of the main uses of polythene film in fruit growing, however, is in fruit storage. Polythene virtually prevents moisture loss from the fruit and because of its permeability to oxygen and carbon dioxide it enables certain fruits to be sealed in polythene containers. Storage life is increased and quality is vastly improved. The build-up of carbon dioxide and drop in oxygen inside the polythene container can be likened to “gas storage” or controlled atmosphere storage practised overseas with marked success.

Pears store particularly well in polythene and large quantities of Bartletts and Packhams as well as Josephines, Comice and Winter Nelis are regularly cool stored in this way. In America it is normal practice to market pears in polythene lined boxes. Some varieties are unsuitable for polythene storage, especially Keiffers, which develop internal browning.

Apples too can benefit from this type of storage. Yates are regularly stored in polythene lined boxes for sale on the late market. Jonathans and Golden Delicious can also be stored in this way. Picked at the right maturity and stored immediately, the fruit will come out of store as fresh as it went in.

Granny Smiths may scald badly in polythene and should not be stored this way.

Prepackaging

Lastly, polythene is coming into its own in prepackaging. Overseas, prepackaging of fruit is commonplace. Here it is yet in its infancy with attention focused mainly on vegetables, but greater developments in this field can be anticipated.

Other Uses

I have outlined some of the uses of polythene in fruit growing but it is also important in other phases of horticulture, for instance as a substitute for glass in glasshouses and cold frames and for packaging semi-perishable garden subjects, such as bulbs.

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