

Strawberries revived



The plastic tunnels are moveable and are used to cover a crop just before and during picking.



Bare rooted Elsanta, which are dormant over the winter were planted in March and will bear fruit from mid May.

Plastic tunnels have rejuvenated the UK strawberry industry by lengthening the season and allowing a consistent supply of quality fruit.

Helen Armstrong

The strawberry industry in the UK has been transformed from a picking season which – if lucky - lasted three to four weeks to one which today stretches from mid May to the end of September. “Pick Your Own”, common 20 years ago, has been replaced by professional suppliers to the large retailers. The revolution of the industry has been largely thanks to use of plastic tunnels which allow the timing of the crops to be manipulated, the fruit to be protected and picking to continue in all weathers. And it is not only strawberries which are being grown this way. Raspberries too, and possibly in the future other soft fruits, will be grown in tunnels.

“The big advantage of tunnels is that we can manipulate the season. We can bring the crop on earlier and spread the

season which is also better for labour,” says Philip Armstrong, farm manager for Edward Vinson which has around 60ha of strawberries on three sites near Faversham in south east Kent. It expects to produce around 1400 tonnes

this year. It also has six propagation sites in south and south east England virtually all of which are under glass. “The other advantage of tunnels is that because the crop is protected from the rain we can pick every day during the season. In the past, picking was often rained off,” he said.

Another advantage for all in the chain from grower to consumer is less disease, in particular botrytis which has allowed spraying programmes to be reduced by 60%, says Armstrong. The result of all this is that the main supermarkets in the UK now only want strawberries grown under cover because they get both consistency of



Philip Armstrong, farm manager for Edward Vinson.

“The profit is a balance between higher yield and labour costs”

by plastic tunnels



Advantages of tunnels

- Manipulation of season – longer
- More even labour requirement
- High quality fruit
- Consistent supply
- Picking not rained off
- Not permanent (no planning permission required in UK)
- Less use of chemical crop protection sprays (60% less)

Disadvantages

- Capital outlay
 - for tunnels
 - machinery to carry and secure tunnel
- Covers may need to be removed quickly during high winds

A team of Polish workers put a cover on one of the 75m long tunnels.

supply and good quality. His farming neighbour Alistair Brooks of B.R. Brooks & Sons, moved to this part of Kent seven years ago primarily for its sandy soil.

He started growing soft fruit in 1972 near Tonbridge in Kent for “Pick-Your-Own”. In the beginning he was producing minority berries such as loganberries and blackberries and later concentrated on growing raspberries for Marks and Spencer. In the late 1980s he switched to strawberries and some raspberries and since moving to this site in 1997 he has only grown strawberries.

“Supermarkets want year-round

programmes and, although we produce a seasonal perishable product, we are compared with suppliers of tinned baked beans. For example, last year 99.7% of our supply was to specification but in their eyes this was only just good enough. “From a customer point of view supermarkets cannot afford to have empty shelves and if that happens they will stop running that line. We as an industry have to understand that. The only way to compete with other products is to have a good supply of the right sort of fruit. If a grower can get his head around that then tunnels are an obvious solution.”

Tunnel types - The sorts of tunnels being used are mostly the Spanish-type. Compared with the French tunnels which are also used occasionally, Spanish tunnels have bays of wider span and all the bays are connected, rather than being individual. Also, the plastic covering the Spanish tunnels stops about 1m above the ground which improves ventilation while the plastic covering the French tunnels extends to ground level.

The tunnels are not permanent structures, which in the UK means that they do not require planning permission, and therefore they can be moved to cover a crop when required. This means it is not necessary to have covers over the entire crop the whole time which saves on capital investment. They can be moved to force part of the crop early or cover it just as the fruit becomes ready for picking.

“Moving the tunnels is a hard job but it is worth it,” says Armstrong. The tunnels are 75 to 100m long and about 4m high at the highest point. The plastic has to be removed and the metal frame support have to be pulled out of the ground, transported and fixed into the new site. This requires special equipment which twists the poles into

“We are growing nine varieties and the aim is to have as flat a production curve as possible”



Alastair Brooks of B.R. Brooks and Sons

Production

the ground which all adds to the capital and labour costs. >

The polyethylene film has to be replaced every two to three years and Vinson is considering using films which contain additives to try and reduce the heat in the tunnels during the summer. If the temperature gets too hot the fruit can become soft and susceptible to bruising. It is also necessary to keep an eye out for high winds and be able to remove the covering at short notice.

“Tunnels and the labour involved impose a huge extra cost but they do bring a yield advantage in particularly for Class I fruit,” says Alistair Brooks. Most of the growers rely on immigrant seasonal labour. Vinson, for example, employs about 70 full-time workers plus during the picking season up to 300 foreign students mostly from Poland who are employed under the Concordia quota system. All are paid the minimum agricultural wage (which is higher than the normal minimum wage in the UK) plus bonuses and are accommodated on site.

“The profit is a balance between higher yield and labour costs,” says Armstrong.

Cropping strategy - Extending the season is not simply of matter of planting a crop and expecting it to bear fruit all season. At Vinson’s there are at least three crops – early, normal and late - which are timed to follow on. Some of the Elsanta variety, which were planted the previous July, are forced under the tunnels to fruit early. These plants are produced from misted tips propagated in pots. Following on from these are cold stored runners (bare rooted) which are doubled planted with medium plants with a crown size of 18-22mm and A+ with a crown size of 15-18mm

“We double crop these in the first year because the plants are still open and the fruit is easy to pick. At the end of the season we pull out the medium plants to give the A+ more space to crop again the next year. Some are forced early under the tunnels but the majority are allowed to come into fruit naturally.

Bare-rooted Elsanta plants, which are



Straw between the rows is mostly for picker comfort and placed along the outside edge helps prevent rain splash.

kept dormant over the winter by storing them at -1.5°C are planted in the early Spring. They have fruit ready for picking 60 days later in late June (the traditional crop). As it gets closer to harvesting this crop is covered with the tunnels.

After that come the ever-bearers, in this case Everest. It is a day-neutral variety and will produce fruit from June until October. These are covered with the tunnels as soon as the Elsantas are finished. Everest was a variety bred by Vinson some years ago and which has virtually become the industry standard for the ever-bearing varieties in the UK. More recently the company developed the Evie series of varieties which are lighter in colour and preferred by some UK consumers.

“We are going to try and bring Elsanta on even earlier next year by planting them in coir bags,” says Armstrong. For these we may use French tunnels because these are warmer than the Spanish type. “As well as having an early crop, plants in the coir bags are not so prone to soil borne diseases and we don’t have to move the tunnels so frequently because we can replant into the coir bags,” he says.

At the moment, the strawberry fields are sterilised with the chemical chloropicrin and rotated so that, when possible, no strawberries are grown on them for one to two years.

Flat curve - Brooks also has several varieties and planting strategies in order to stretch the season.

“We are growing nine varieties and the aim is to have as flat a production curve as possible,” he says.

“We start with bare-rooted Elsanta which we force early. Then we move onto Alice which we have under tunnels and are comparable to the Elsanta main crop. After that we have Florence, half of which we delay harvesting by covering it with white polythene. And then come the ever-bearers which account for around 50% of our total crop. These are all American varieties, chosen because they are bigger which makes them cheaper to harvest and they are also what the supermarkets want.”

The company has in the past been running two rows of plants per bed, five beds per tunnel but has moved to three rows on a one metre beds with a smaller wheel space between rows. It does mean that the row closest to the polythene cover is lost because it is too difficult for pickers to pick there but nevertheless it has allowed planting density to increase by 35-40%, says Brooks.

At the same time the beds are being made 40cm high – much higher than normal – to allow the soil around the roots to heat up quicker in Spring, to improve drainage and to try to



Vinson's is doing some trials with strawberry plants in coir bags, the advantage being that they can replant into the bags.

discourage pickers from getting on their knees to pick.

"Picking rates are much higher when the pickers stand on their feet," says Brooks. The beds are also covered in a fleece until the plants get their first new leaves. "We can get a harsh NE wind so the fleece takes the stress off the plants. It is an insurance which we need to have these days," he said.

Packing – For as much as possible strawberries are graded and packed in punnets in the field. They are picked according to size, shape, freedom from disease and damage and all need to have a stem. "Runners" take the punnets to a trailer which is parked in the shade. Brooks keeps the tunnel length to 75m which he says is better for ventilation as well as for pickers and runners who don't have to walk so far to the end of the tunnels. "We are also looking at how we can mechanise the transportation of fruit through the tunnel. In this respect the industry does need to try and change," he says. From the fields, strawberries are taken as quickly as possible to a cold store. Brooks already has a blast chiller to quickly bring the temperature down to 3-4°C. The punnets are checked for weight, the lid goes on and it is labelled. "We do the final checks in the packhouse but we need to get it right in the field," says Armstrong.

Marketing - Vinson sells its fruit through a marketing company, BerryWorld, who for a percentage fee provide the sales and marketing service, negotiating prices with supermarkets who are reluctant to make fixed contracts.

Brooks sells its fruit through the grower-owned marketing group, KG Fruits Ltd, and 70% goes to supermarkets and 30% to caterers.

"Although we sell through KG we are still encouraged to take responsibility for our fruit and we are regularly visited by supermarket buyers and their quality assurance departments. We are also certified under Tesco's Nature'Choice quality assurance scheme. I believe such schemes are part and parcel of production and need to be embraced," says Brooks. He also says that he finds the catering industry even tougher than the supermarkets. "If you think supermarkets are tough the catering industry is worse," he says. "They are very strict on taste as well as appearance and the specifications between caterers is also quite different and we have to try and satisfy them all." The longer season and consistent supply has increased self-sufficiency of strawberries in the UK. Compared with 15 years ago when 60% of the strawberries, eaten in England between June and September, were imported from the Netherlands and Belgium, today UK growers can fulfil the total demand.

Protecting other soft fruits

In addition to strawberries Edward Vinson has 10 ha of raspberries grown as a response to market demand in the UK. It is currently growing new varieties such as Tulameen and Glen Ample which



crop early (June-July), have a higher yield and larger fruit, and therefore lower picking costs, than older varieties. These are followed by later varieties such as Caroline. Like the strawberries all the raspberries are grown in tunnels. The company also has 20ha of blackcurrants which it grown outdoors and which are sold on a contract to the producers of blackcurrant cordial.

COMPANY

Edward Vinson Faversham, England

60ha strawberries
20 ha blackcurrants
10ha raspberries
1400 tonnes strawberries per year
70 full time employees
300 seasonal workers
Marketing: through company, BerryWorld

COMPANY

B.R. Brooks, Faversham, England

30 ha strawberries
700 tonnes strawberries per year
7 full time employees
140 seasonal workers
Marketing: through grower-owned KG Fruits

However, Brooks believes that demand is still limited by production and as production is increasing, currently around 13-15% per year, demand will still increase for some time.

"If production is right strawberries sell themselves," he says. □