

CALU HORTICULTURE WORKSHOPS – FIELD VEGETABLES

14th November 2007

Bellis Country Market, Holt, nr Wrexham

The market for locally produced vegetables is increasing. Unfortunately, there has been an erosion of the skills base needed to produce these vegetables in many areas of Wales. In response to requests from interested current and potential growers, CALU organised a workshop day at Bellis' Country Market to look at field vegetable production on Wednesday 14th November. The workshop was led by CALU / ADAS Horticulture Advisor, Chris Creed and Bellis Farm Manager, Jim Cross.

ABOUT BELLIS COUNTRY MARKET

Bellis' used to be a mixed livestock / dairy farm. In the late 1980s the decision was taken to move away from livestock and towards horticulture. The dairy herd was disposed of appx 10 years ago and since then, the farm has been a stock free unit.

Bellis' has a large garden centre with attached farm shop. All of the farm's produce is sold direct to the customer, either through the farm shop or through the summer pick-your-own enterprise.

Bellis' let land to neighbouring farmers for arable cropping, this facilitates good crop rotation.

LOCATION

The site is located at Holt, appx 4 miles east of Wrexham and 6 miles south of Chester, just off the A534.

SITE AND SOILS

Being on the Cheshire plain, the site is remarkably flat by north Wales standards. The soils are good loams with a tendency towards clayeyness in some areas. The lack of slopes causes some problems with drainage: this was particularly the case in 2007 with the exceptionally wet summer weather. Some areas were under water for several weeks. As a result, in these areas, the soil structure was severely compromised. Crops in the wettest areas were lost.



As the site is flat, it is very exposed. Extensive use is made of shelterbelts. The main species used in these are birch and alder. Willows had been tried in the shelterbelts, but their roots had caused damage to the drainage system and so the trees were removed.

CROP STORAGE

An ice-bank cold store is used. This system has a tank of refrigerated water which is cascaded through baffles as air is blown through. The temperature is maintained at appx 5°C. Because the air is moist it provides ideal conditions for storing leafy vegetables without excessive wilting.

Stacking crates are used for larger vegetables. The crates accommodate one layer of cabbage / cauliflower and which fit onto a standard pallet. Pallets are moved around with a manual pallet truck. Smaller vegetables (e.g. courgettes) are stored in mushroom trays (which are readily available from stock in the farm shop).

POTATO STORE / MACHINERY SHED

The main machinery shed and grading /storage area for potatoes is in a shed built on the pad of the old slurry lagoon. The shed has an insulated ceiling, but not walls. Potatoes are graded and bagged in one operation. A 50mm screen is used for grading. Out-grades are supplied to a local livestock farm to be used as feed.



Potato grader/packer

Bulk potatoes are clamped at the back of the shed surrounded by straw bales, with the face protected by duvets. It is important to use loose straw to cover the top of the potato straw to ensure that moisture is wicked away. The potatoes will be safe in this store to at least -5°C

FERTILISER

Chris Creed gave a brief overview of calculating rates for fertiliser application and also the regulations which limit activities in Nitrate Vulnerable Zones. The importance of carrying out soil analyses was stressed – ideally this should be done every two years and fertiliser regimes should be adjusted in the light of soil analysis results.

PLASTIC WASTE

Jim explained that Bellis' has signed up with a company who dispose of all their plastic waste for them. This is because the regulations are so complex it is safer to contract out plastic waste disposal.

MACHINERY

Much of the planting is done with a Super Prefer planter. This can plant about 1,500 plants per hour.

Rotavation is used to chop up crop debris. Chris Creed pointed out that rotavation can be very damaging to soil structure and should not be used for soil preparation.

A precision drill is used for carrots. It has hoppers which can be used for application of granular pesticides at the time of sowing.



Planting machine

A steerage hoe is used for some weed control. A front mounted steerage hoe would always be preferable so that the driver can see what it is doing

IRRIGATION

An aluminium portagrid irrigation system is used. Bellis is fortunate in having its own borehole and no problems with water pressure. Trickle irrigation does not need authorisation / licensing, but portable and above ground systems do. Trickle irrigation reduces losses to evaporation and damage to crops.

POTATOES

Around 4ha of potatoes are grown each year. The two varieties used are Marfona and King Edward.

Weed control is achieved with Paraquat and Linuron.

CARROTS

Nairobi is the main variety grown. In ideal conditions, this variety can produce 70t/ha.

A small area of Chantenay is also grown.

Carrots are sown three rows to a bed and harvested either by hand or with a small (two row) potato harvester. They are stored in the ground until required. Traditionally they would have been covered with straw, but with milder winters that is no longer necessary.

Carrot fly is the main problem.

Carrot flies have two main seasons: the first in May, the second early autumn. Autumn infestations are a particular problem as they will result in maggots in the crop.

The only weed control on the carrots was linuron after sowing.



Nairobi carrots – freshly harvested

ASPARAGUS

Cheshire asparagus retails for around £7 - £8 / kg. Bellis' has a range of asparagus beds ranging from appx 15yrs old to beds newly established in 2006.

Asparagus crops will decline with age. As the decline is insidious it may go unnoticed. When planning the crop it is better to plant several smaller areas in consecutive years than to plant one large area in one go. The latter will all decline at the same time.

In a good year, the picking season for asparagus can last from May through to 21st June (the traditional cut off date).



Female asparagus plant with berries

After the 21st June, the plants are left to produce ferns which nourish the crowns. Once the ferns have largely turned brown they are mown down and the crop is ridged up.

Asparagus crowns are planted at appx 10,000/ha. It is important that the crowns are planted deeply (15 – 20cm) otherwise lots of small stems (sprue) will be produced rather than the desirable and profitable thick stems.

Weed control at Bellis' was with Flexidor in March. Fertiliser is usually either 17:17:17: or 20:10:10 applied in early March.#

Asparagus benefits from salt (Na).

RHUBARB

The variety grown is Stockbridge Arrow a late variety. Late rhubarb varieties also tend to be the earliest to die back in autumn.

Rhubarb is a good crop for organic cropping systems as it requires no routine weed / pest control. Once the crop gets growing in the spring, it soon swamps out other vegetation.

This variety yields appx 50t/ha, but only a very small area is grown.

Rhubarb requires a cold period before it will start to grow.

Rhubarb retails at around £3 - £4 / kg.

Propagation can be by division of a dormant root stock. Ideally the set should be the size of two clenched fists and have a strong dormant bud.

Rhubarb is susceptible to drought.

BRASSICAS

2007 was a very bad year for brassicas at Bellis'. The floods of early summer meant that planting was delayed until early August and all plans for sequential planting were scuppered.

All brassicas are bought in as modules from Quantil, Ormskirk.

Cauliflowers, Brussels sprouts, Savoy cabbage, red cabbage and white cabbage are grown. In a normal year, sequential plantings would ensure a near year round supply of produce into the farm shop.



Brassica crops