IPPS Conference October 2019

I am often quoted as saying that the UK grows more daffodils than the rest of the world put together. This was certainly true 20 years ago and probably still is today as the UK area has increased slightly and the other major country has decreased it’s daffodil area.

Slide 2 World area in Hectares 1998

55% of the rest of the world area is in the Netherlands. Unfortunately it is no longer possible to gather actual figures for the UK area in 2019 but I estimate the figures as follows Slide 3 whilst there may have been a slight increase in other countries I do not think it will be significant.

The crop in the UK is grown for both bulb and flower production for home and export markets.

Slide 4

There are 3 main areas of production in the UK

Slide 5/6/7

Traditionally growers in the Cornwall (the south-west) were small family units and grew daffodils mainly for flowers with the bulb very much a secondary consideration while in Lincolnshire (the eastern counties) the bulb was all important and the flower a secondary consideration as the bulbs were used for producing early flowers in glasshouses. That has all changed with the flowers being important to all areas as glasshouse production has declined.

Slide 8 Reasons for Decline of Glasshouse Forcing

Bulbs are sold for pre-packing and sold in garden centres and multiples and also for amenity use. Since the late 60’s a substantial export market has been established for bulbs and flowers . There is an estimated 7000t of bulbs exported to countries as far apart as N.America and Russia and a large tonnage to The Netherlands. Actual figures for no. of bunches of flowers exported is difficult to obtain but I estimate it to be in the region of 50 - 60 million bunches

Slide 9

Traditionally flower sales were through regional wholesale markets taking flowers from individual growers on a commission basis and prices dictated on a daily basis by supply and demand. Today’s market is very much led by the multiples who want a consistent product at a fixed price. Consequently a large proportion of flowers now go through packers that have contracts with the supermarkets and buy from the growers on a fixed price. However being a field crop the vagaries of the weather can mean shortages of flowers at critical times such as Mothering Sunday and Easter which are important to the daffodil market. This partly offset by the fact that the earliest flowers come from Cornwall, followed by Lincolnshire and Scotland bringing up the rear. In years past it was possible for a particular area to have a bonanza due to the effects of supply and demand but with fixed price contracts that is less common.

Slide 10/11

Fifty years ago much of the labour to pick flowers was family members and local casual labour looking to earn some pocket money but today most of it is East European supplied by Agencies and will often follow the crop from Cornwall – Lincolnshire – Scotland. Flowers are picked on a piece work basis with pickers earning 10.5 pence per bunch (£10.50 per 100) and a good picker will be on 200 bunches per hour, even when they are picking in the rain with a gale up their backsides.

Slide 12

Once the flowers have been picked they will be transported to a temperature controlled store for storage at 2C prior to transport by refrigerated trailer to the flower packer.

The daffodil crop is unusual when compared to many other agri/horticultural crops in that there is the possibility of streams of income- flowers or bulbs or both. Whereas with most crops one plants the ‘seed’ and harvests the the flowers or food with daffodils there is an opportunity to take flowers and bulbs and if the weather comes wrong and there is a glut of flowers and they are not picked there is an initial loss of income but there is the bulb crop to mitigate that loss. In many cases the bulb crop will be 10-15% better. One might therefore ask why not leave the flowers but they come on stream at a time of year when cash flow is under severe strain so it is better to take the hit further down the line.

Daffodils are usually a 2 or 3 year crop with an 8 year gap between planting on the same field

Slide 13

On occasion bulbs maybe left in the ground for 4 years. For maximum bulb yield a 2 year crop is best but for maximum flower yield a 3 year crop is best. A 4 year crop will give an excellent flower crop but the bulbs harvested will be very small, take a long time to get back to flowering size and are at a high risk for pests and diseases. Bulbs are planted in August/ September after undergoing what is known as HWT (hot water treatment) or sterilizing

Slide 14

This is a process of immersing the bulbs in hot water at 44.4C for 3 hours. The temperature and duration is critical. The temperature is sufficient to control daffodil eelworm (ditylenchus dipsaci) and large narciisus fly (Meredon Equestris) and bulb scale mite (tarsonemus mite) without damaging the bulb providing it is done at the right time.

Slide 15/16

Once HWT has been completed the bulbs are dried back and planted mechanically. Whereas 50 years ago we would plant bulbs in 6 row beds with every bulb sitting on its bottom (very labour intensive) today the machine scatters the bulb in the bottom of the ridge at a depth of 13cm. Planting rate is normally 15-20 tonne per hectare which should yield 36-42 tonnes after 2 years. Lower planting densities will give a better % weight increase and bigger bulbs however this requires more land and the market for large bulbs is very limited. Daffodil bulbs when sold to pre-packers and in the UK AND abroad are sold by weight and obviously there are not so many big bulbs in a tonne as there are medium size bulbs making the price per bulb higher.

Slide 17/18 Two year schedule

After 2 years the bulbs are lifted with modified potato harvesters

Slide 19 Lincolnshire lifting straight into trailers

Slide 20 Cornwall and Scotland windrow first to allow Mother Nature to part dry bulbs

Slide 21 Bulbs are placed onto forced air drying systems to dry prior to grading

Grading is mechanical and will separate the bulbs into sizes according to circumference, the biggest and smallest bulbs destined for the planter and the mid size bulbs for market

Slide 22

Most of the large growers (one or two will be growing 1000h) will be growing large quantities of a few varieties but there is also quite a vibrant market for unusual and new varieties. Although the basic growing techniques are the same the marketing is completely different. There are several growers specialising in this market. They do not market the flowers and bulb sales are through mail order and extensive advertising either through the press or attending shows. Whereas the large grower might have 15-20 varieties I have been growing 400 varieties on 2 hectares

Slide 23

On some of these varieties there may only be 50 bulbs available and price per bulb will reflect this. There are two important shows as far as I am concerned but many others as well.

Slide 24 Harrogate show in late April for which we use field grown flowers

Slide 25 This is of course the natural season and these flowers should have excellent stem length, good colour, and good size indicative of the variety. The reality of course is very different. Depending on Mother Nature is a risky business and all sorts of things can go wrong:-

Slide 26 Problems with Natural Season

Slide 27 The most important show is Chelsea Flower Show at the end of May after the natural flowering season is finished so we have to manipulate flowering time. When I first started showing in 1986 we managed to use field grown flowers but climate change and the loss of some fungicides means that is no longer possible. Following several experiments we have devised a programme to produce flowers when we want.

Slide 29 as soon as I get back from Chelsea we start planning for the following year. When we start harvesting bulbs in July whilst grading the 150 bulbs of 150 varietiesare pulled out (22.500 bulbs) These are are placed in a temperature controlled store at 22C where they stay until January 2 when planting commences

Slide 30 bulbs stored until January

Slide 31 bulbs planted into good quality soil-less compost approx. 6cm deep and covered with 1cm compost

Slide 32 post planting programme

Slide 33 bulbs ready to go into temperature controlled store for 10 days at 10C followed by 13 weeks at 2C

Slide 34/35 3 weeks before Chelsea bulbs go into the glasshouse

Slide 36 Although the initial display only uses 70 varieties we know that some will not make it for one reason or another so like to have plenty in reserve

Slide 37 Until we start picking flowers we can water overhead

Slide 38 5 days after housing. Hopefully 10 days after housing we will start picking the first flowers. We are however still at the mercy of Mother Nature if we have dull cold days the flowers will not grow even with heat on but more worrying is if it very sunny and hot the flowers grow too quick and face upwards instead of sideways

Slide 39

Slide 40/41 We have a selection of early, mid season and late varieties and they will flower in that order

Slide 42 As a variety starts to flower we may only get 5 flowers the first day and then 10 the next day and so on. As the flowers reach optimum size and colour they are cut and put into buckets of water in the store at 2C

Slide 43 Repeat of slide 36 – no recovery here

Slide 44 Always have spares – why are these buds dried up on a very reliable variety?

Slide 45 Another reliable variety but this year produced distorted flowers

Slide 46 Bottom flower very young Top flower mature

Slide 47 Some varieties produce distorted petals

Slide 48 Some varieties produce nice fat buds then dry up

Slide 49 Flowers ready for transport in refrigerated lorry to Chelsea on Sunday at 3am

Slide 50 Arranging flowers which are returned to the refrigerated lorry until Sunday evening

Slide 51 Despite meticulous arranging flowers move overnight and need checking before judging at 8am Monday morning

Slide 52 What the judges see

Slide 53 Hopefully what we will see 7am Tuesday morning

Slide 54/55 After 2 days hot weather some flowers may well look sad

Slide 56 Always a good idea to have replacements and we would expect to re –stage twice during the week

Slide 57 Using the same technique we have managed to grow daffodils for the Royal Barge in the Queens Diamond Jubilee river pageant (June 2012)

Slide 58/59 Flowers for a Buckingham Palace Garden Party in July

Slide 60 Flowers for the Champions League Football Final in Cardiff in 2017