

# **The Quest for a Pinker Planet: Breeding, Production and Marketing of Hybrid Dianthus at Whetman Pinks<sup>©</sup>**

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## **INTRODUCTION**

Whetman Pinks is a family-run nursery in south west England which has specialised in breeding and production of hybrid pinks, sometimes known as show pinks. These hybrids between *Dianthus caryophyllus* and *Dianthus plumarius* are a “typically English” garden plant. Whetman has developed these and other hybrid dianthus cultivars as attractive modern garden plants and promoted them in many other countries. In April 2013, Whetman Pinks Ltd was awarded the Queens Award for Enterprise: International Trade, for its achievements in exporting pinks worldwide.

## **NURSERY HISTORY**

Whetman Pinks is located in a sheltered valley near Dawlish on Devon’s south coast. The climate is mild and light levels quite good despite the surrounding hills. There has been a horticulture industry in the area since the 1800s. As well as apples for cider (the nursery used to be a cider factory) the nursery used to grow fruit and vegetables, particularly during the two World Wars when flowers were grown in the hedgerows, as all productive land had to support the war effort. Flower growing expanded after World War II and the cut flowers were sent to the London wholesale market at Covent Garden by steam train, including bunches of locally grown Devon violets and pinks.

At that time there were very few cultivars of pinks available, the most popular and well known being ‘Doris’. This cultivar, and others bred by Montague Allwood, were inexpensive to grow and popular because of their perfume. The portfolio of cultivars was expanded by the local, highly talented, breeder and nurseryman Cecil Wyatt. In order to produce quality flowers, good propagating material was needed and John Whetman established healthy mother stocks. Other local growers began to want plants and the nursery gradually became more of a propagating business. Cloches and simple early polythene structures were gradually replaced with glasshouses.

The 1980s and 1990s saw a boom in the market of pinks for cut flower production, as flower growing moved outdoors in Lincolnshire and Cornwall. Pinks also became more popular as a perennial garden plant with the increasing range of colours and forms gaining the attention of the gardening public.

## **DEVELOPMENT OF A BREEDING PROGRAMME**

The first Whetman bred cultivars were introduced to the market in the mid 1980s as a promotion with Pride of Place Plants, a marketing initiative backed by nurseries in the Farplants group and Blakedown Nurseries. The pinks collection consisted of the new cultivars ‘Devon Cream’, ‘Devon Glow’, and ‘Devon Blush’.

Breeding with the existing material available in the trade and our own material yielded further cultivars of garden pinks, extending the colour range available. Dwarf cultivars were used in our breeding and the Star™ series of dwarf dianthus was developed and launched. These were followed by double cultivars of an intermediate height, leading to the Scent First™ collection of pot and patio pinks. These perfumed cultivars fit well into modern smaller gardens and the continuing enthusiasm for container gardening. As well as being a versatile garden plant they can be sold in flower more easily than the more traditional selections while their shorter, more compact, growth means that more layers can be accommodated on a Danish trolley thus reducing delivery costs to retailers. These attributes led to their increasing popularity as impulse purchases.

Realising the importance of new cultivars to the industry and the opportunities worldwide for the *Dianthus* genus with its broad appeal, more resources were put into the

breeding programme. A dedicated glasshouse was built, isolated from the production facilities, where breeding could be carried out and nuclear stock held securely. On John Whetman's retirement our current breeding programme manager, Laetitia Moucheboeuf, took over the further development of breeding activities and our high health facility. The programme has become more structured with the following objectives:

- Elegant plant silhouette
- Grey-green foliage with narrow leaves
- No vernalization requirement
- Hardy
- Perfumed flowers
- Repeat flowering
- Attractive new colours or patterns

- Distinctly different and stable
- Well-proportioned plant
- Easy to grow and reliable
- Good yield of cuttings for production
- Disease resistance
- Not producing split calyx

The breeding and selection process (Fig. 1) takes an average of 7 years from first crossing, through several selection and trialling stages, to bulking-up and first commercial sales. The breeding team and directors have regular selection sessions and we seek input from as wide a range of people as possible during the selection process. This includes regular visits from licensees, agents, and customers. All material is grown under conditions of strict hygiene and virus testing is carried out every 6 months for both production material and new selections.



Fig. 1. Breeding, rigorous trialling and healthy stock result in uniform crops and customer satisfaction.

## CULTIVAR TRIALS

The form of trials conducted will depend on the category of plant and its expected use. All cultivars will be trialled outdoors in an autumn planted trial. Cultivars which could be useful as cut flowers will also be grown under protection and such factors as flowering date, yield of stems, stem length, and so on are recorded. Scent First™ pot and patio cultivars and dwarf selections are grown in both autumn-planted and spring-planted trials in the appropriate pot sizes to reflect the main potting periods and pot sizes favoured by our customers for these categories of plant. Candidates for the Scent First™ collection are grown in 1.5-L pots and dwarf cultivars in 11-cm pots.



Fig. 2. The plants in this picture are from our Scent First™ collection of Pot and Patio Pinks. This grower in Japan has mastered the growing and scheduling of our varieties so that he is now able to have attractive flowering plants in time for the all- important Mother's Day market.

Reference cultivars are grown alongside the trial cultivars so that comparisons of height and flowering time can be made. This is important because no 2 years are the same in terms of environmental conditions such as light levels and temperatures. At this trial stage we will make sure that we have initiated in vitro material and we will send the candidate cultivars for assessment to partners in other territories, so that we can see how they perform in other climates. They will be tested for cold tolerance and for heat and humidity tolerance in the USA. Trialling will be carried out in Europe with our partners there, and in Japan, South Africa, and Australia as appropriate.

A new cultivar will be trialled first in secure locations, then more public trials as we approach the point where it may be released to the market. This stage of trialling is only undertaken once protection of the cultivar by Plant Breeders Rights or patent is in place. For many years we have been fortunate to have been able to enter many of our cultivars in the Royal Horticultural Society trial grounds at Wisley Gardens, Surrey, and many of our cultivars have been awarded the highly valued and respected RHS Award of Garden Merit. There are no current RHS *Dianthus* trials but it is hoped there will be another way

of testing the garden-worthiness of cultivars before long.

### **YOUNG PLANT PRODUCTION**

Multiplication is by softwood cuttings. Once a prospective cultivar is in our trial system we will have initiated in vitro cultures which we use to establish our nuclear stock. The next stage is to increase this by taking cuttings to produce between 10 to 40 plants also kept in isolation as our elite stock. These elite plants are then used to establish our production stock plants, the quantity of which will depend on the popularity of the cultivar and the expected yield of cuttings per plant. All of the stock plants are replaced annually in a rotating programme, ensuring that we have cuttings available at all times, with production peaks matching demand. In practice it is not quite that simple so we may use our cold stores to help buffer the supply and demand by storing unrooted cuttings for a few weeks. We have to guess at what the fashions are likely to be and speculate, like most growers, as to what will be in demand when we decide what numbers to grow of each cultivar.

We root on heated propagation benches, using boom misting until root initials are seen, this takes from 11 days to 25 days depending on cultivar and time of year. Mist is then stopped and the cutting forced to seek water by producing roots. We are currently using a form of glue-plug which has a very open structure. A high air-filled porosity is important as air in the rooting zone is crucial to healthy root development. A regular 3-cm plug in a 104-cell tray takes 5 weeks to produce in the main growing season, longer during the period October to March. No growth regulators are used and pinching is carried out by hand if necessary. Plants are despatched on Danish trolleys and in layered cartons.

### **EXPORTING**

#### **Exporting Direct from the U.K.**

Our exporting activities began when we were fortunate to meet a group of French nurserymen from the marketing cooperative Vivaplante who visited us during a study tour in 1990. *Dianthus* were being grown in France, but not the range of cultivars or the clean material that we were offering. Our relationship grew from there and Vivaplante is still one of our valued French customers.

In order to be successful at exporting you have to have a product which is unique and which cannot be easily obtained in the importing country, or which has a competitive price advantage. In some cases the market has to be built or created through promotion. Choosing the right partners is vital otherwise any success will be short-lived. Knowledge of languages can be a distinct advantage and the serious would-be exporter needs to prepare literature in the target country's language. Attendance at key trade shows is an important step as it enables you to gauge interest in your products, engage with potential customers and demonstrates commitment to your target market. Unfortunately some people only exhibit once or inconsistently. In our experience, in order to get noticed and to be seen as being serious you need to exhibit about three times before potential customers take notice.

Logistics is another essential element. Delivery needs to be fast enough to avoid deterioration of the plants. Our relationship with specialist horticultural carriers Transflora has been important, enabling us to get plants to customers on Danish trolleys often within 24 to 48 h of leaving the nursery. However, it can be a challenge to persuade customers to order for the same delivery period in order to fill a lorry. Transport cost needs to be affordable as a proportion of the plant value. With a current value of approximately £1,000 per trolley of 5,000 plants and a cost of approximately £150 this adds £0.03 per young plant, which is acceptable (the comparable cost for U.K. delivery is approximately £0.01 per plant for a full trolley).

Selling unrooted cuttings is another option but brings different problems. Our location in the south west means is a long way from major airports making it difficult to send air cargo efficiently; and couriers are very expensive and do not insure living plant material,

which means a higher risk for us as the exporter.

### **Exporting to the Global Market**

Again the choice of strategic partners is crucial. We have a model relationship with Planthaven International, which introduced Whetman genetics into North America and which, through its knowledge of the market, enthusiasm for our breeding, and complete integrity has created a valuable market for our much loved pinks in the USA and Canada (Fig. 3). Part of that company's activity is to actively promote our cultivars, including through its own website ([planthaven.com](http://planthaven.com)), setting up a dedicated <[whetmanpinksusa.com](http://whetmanpinksusa.com)> site. It also promotes our plants at trials, open days and trade shows, through mail shots and the all- important personal relationships. The company is now representing us in Europe too, working to extend our network of licensees in a sustainable long term way.



Fig. 3. Author at California spring trials.

Our introductions have been trialled and declared hardy to Zone 5 in the USA. The next challenge is to find ways of growing them in climates which are often described as “brutal” with extremes of heat and humidity.

A selection of our introductions is available in Australia and New Zealand where we are represented by Plant Management Australia. Grown outside, the pinks bud up beautifully in their spring. Gardeners there like strong colours, as in southern Europe and other areas with bright sunny conditions. What does well in Australia generally seems to perform well in South Africa where we have relatively recently established partnerships there. Volumes there are never going to be huge but it is good to be able to spread the enjoyment of pinks and their lovely perfume to as many regions as possible.

The Japanese market is particularly interesting. Japanese customers associate carnations with Mothers’ Day where they are often used as a gift and therefore more highly valued. Scheduling a crop to produce a specimen sized plant in flower by early May is quite difficult as the grower has a relatively short winter during which to grow a compact plant. It is too hot to pot up before October and temperatures rise again in March. Nevertheless they have mastered the growing and have achieved good results. Much attention to detail is given, watering often by hand. Growing structures are generally polythene or polycarbonate — presumably due to the frequent earth tremors. Feeding regimes range from sophisticated liquid feeding on one nursery to the use of controlled release tablets on others. Some growers use peat based media but the majority seem to use a volcanic soil-based medium, lightened with perlite. Presentation of the finished product in garden centres is very impressive. The buying public have high expectations. As well as cherry blossom pink, reds, and patterns are popular in Japan.

I am not sure where we go next with our “pinking of the planet.” Good plant breeder’s rights protection, a national interest in gardening, a suitable climate and reasonable level of disposable income are all needed in a potential new market. The quest continues.