

Clonal Evaluation of *Escallonia* and *Cytisus*

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INTRODUCTION

The rapid increase in the production of container-grown hardy ornamental nursery stock in recent years has underlined the need for quality and uniformity in stock plants. As production increases, so too does the diversity of available species and their associated cultivars, leading to some taxa being misnamed in the process. This leads to confusion within the industry. For example, of eight accessions of *Escallonia* 'Peach Blossom', received by the Research Station at Loughgall, only one conformed with the true varietal description. Similarly, 50% of the accessions of *E.* 'Donard Star' were wrongly named, being in fact *E.* 'Donard Radiance'. In the remaining cultivars between 15% and 40% of the stock was incorrectly named. In the early stages of the evaluation of *Cytisus* it was discovered that all seven accessions of *Cytisus xpraecox* 'Albus' were wrongly named and did not match the general varietal description. Most variability recorded to date was a result of incorrect naming of plants but there were several instances of genetic variability.

CLONAL EVALUATION

Clonal evaluation may be described as the process of identifying any given species or cultivar as being true to type and to identify the features of each individual species/cultivar which best meets the demands of the consumer. This is not to be confused with the selection of a plant of any one species/cultivar over another plant of the same species/cultivar.

The clonal evaluation programme on *Escallonia* at Loughgall was started by Doug Thompson during 1988. By 1993, half of the original number of *Escallonia* species and cultivars obtained during the late 1980s had been labelled as true to type and given detailed descriptions. The remaining cultivars have, as yet, to be positively identified.

The process of evaluation begins by obtaining, from as many sources as possible, material of the genus under evaluation. Usually this includes only those species/cultivars currently under cultivation but occasionally others may be located in botanical collections, gardens, etc. All material received is then propagated and grown on to a stage where it can be set out in a randomised field trial, with a minimum of 12 plants of each clone for statistical comparison and evaluation. This process usually takes about 2 years.

Once established in the field, evaluation of each plant is undertaken for a minimum of 5 years. From the 2nd or 3rd year onwards, notes are made of the various characteristics and variations between species/cultivars from the different sources. This is carried out at least four times a year to evaluate seasonal variations within individual species or cultivars. Attention is paid to basic characteristics such as flowering, growth habit, leaf density, and ornamental value (Table 1). These notes are then compared with descriptions provided in the various texts (Bean, 1973;

Hillier and Sons, 1991, 1995; Krussman, 1984), catalogues, and journals. In some cases, descriptions from the various sources are scanty and may vary, particularly when referring to flower colour (Table 2). The most acceptable descriptions are obtained from those who have been involved in the production of new cultivars, which was the case in our assessment of *Escallonia*, where we were fortunate enough to call upon the expertise of nurserymen from the Donard nursery.

PLANT DESCRIPTIONS

The categories used to describe plants are shown in Table 1. Each plant is measured accurately and the RHS Colour Chart is used to provide a standardised description of colour. This assessment is carried out indoors in a north light. For the matching of flower colour, six blooms are taken to provide a general description of colour. Flowers are matched in bud, again at the peak of flowering and finally when starting to fade.

Table 1. Characteristics used to describe plants.

Descriptor	Characteristic
Plant height	Height of plant in metres
Plant width	Spread of plant in metres
Flowering period	Date of flowering and period over which it flowers
Flower bud	Description and colour
Flower colour and description	Where appropriate this may include number of petals or details of flower standard, wings, keel, etc. if present
Flower stalk	Length (cm) and colour
Calyx	Colour
Stem	Shape, colour, and length (cm)
Leaf	Size (cm), structure, and colour

SUMMARY OF WORK IN PROGRESS

Escallonia. The station is exchanging plant material of *Escallonia* with the Duchy College, Camborne, Cornwall, to add to the National Collection of *Escallonia* held at Loughgall. This will also be used to help confirm further cultivars of *Escallonia* which will then be released to the industry. It is also planned to survey those nurseries which originally supplied material to the programme during the late 1980s, with the intention of providing an indication of the overall effectiveness of the clonal evaluation programme within the industry.

Cytisus. A rolling programme for the evaluation and release of true-to-type taxa of *Cytisus* will be set up with the release of 6 to 8 taxa each year. Each release will be based on a theme, for example a "Heritage Collection" consisting of cultivars originating in Ireland or "Collections for the Smaller Garden" consisting of compact species or cultivars. Each release of material to the industry will be accompanied by a complete description of the plant (Table 2).

Table 2. Example of the available description for a specific cultivar.

Identification no. of clone: LG96115	
Common Name	La Coquette
Bud Colour	Merging red purple 59A becoming 59D around centre fold with yellow 13A beginning to show at the edges
Flower: Standard	15 mm x 20 mm fully stretched, edges curling inward. Red purple 59D in middle becoming yellow 9A toward the side margins and join, inside red purple 65D with outer centre becoming yellow 9A/B towards side margins and inner centre with short scratches of 65D
Flower: Wings	17 mm x 9 mm yellow orange 14A with heavy flushing of orange red 34A on top half, becoming red purple 59D next join; inside yellow 9A
Flower: Keel	17 mm x 8 mm yellow 4A with faint flushing of red purple 59D
Flower Stalk	8 mm flushed grayed purple 184B
Calyx	Flushed grayed purple 187B
Leaf	Young leaves emerging yellow green 144A on underside, 143A on top, tipped grayed purple 187B
Stem	Yellow green 146A, round, and heavily ribbed
General	Quite strong unpleasant scent
Description as Given in Hillier (1991)	Standard rose red, yellow inside, wings deep orange yellow veined brick red, keel pale yellow faintly marked with rose red
Description as Given in Krussmann (1984)	Strong upright grower, tall, standard whitish carmine lilac outside, wings deep yellow with orange brown stripes, keel light yellow; F2 seedlings from <i>C. praecox</i> 'Hollandia' but with no similarity in growth habit to <i>C. praecox</i>

Database. The Station is planning to set up a computer database with photographs and complete descriptions of each species/cultivar including cultural details.

Acknowledgements. I would like to acknowledge the work of my predecessors Mr. Doug Thompson and Mrs. Daphne Purdy on this programme, and colleagues from DANI and the industry who assisted in evaluating the cultivars, plus the support given by my project leader Dr. Raja Harun and head of station Mr. Malcolm Dawson.

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