

## Proteaceous ornamentals

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More than 1400 species have been recognized in the ancient proteaceae family (Rebello 1995). Their occurrence is mostly distributed between Australia with about 800 species and Africa with about 400 species with the remainder found in South America, the Islands East of New Guinea, and a few species in South East Asia, New Zealand and Madagascar. Among 1400 species, the *Banksia*, *Leucadendron*, *Leucospermum* and *Protea* have use in floriculture and landscaping.

*Banksia* :

*Banksia* used as cut flower and *Banksia* stems are traded as dried and dyed blooms and wide range of species is used in environmental horticulture, for the attractive inflorescences and foliage. The *Banksia* genus includes 76 taxa, which are currently grouped into two subgenera, three sections, and 13 series. The most widely cultivated species for floriculture belong to the subgenus *Banksia* sections, *Banksia* and *Coccinea* and are characterized by terminal flowering of large showy inflorescences. These include the scarlet *Banksia B. coccinea*, the pink *B. menziesii*, the green/yellow *B. baxteri* and *B. speciosa* and the orange species *B. ashbyi*, *B. prionotes*, *B. hookeriana*, *B. burdettii*, and *B. victoriae*.

Floral initiation of the species occurs between October and December. Propagation of *Banksia* by rooted cuttings and is based on semi-hardwood material collected following the spring growth flush, during the cooler months of the year. *Banksia* species are already established as cut flower crops and are amongst the most readily identifiable of Australian native plants. The long shelf life and variety of colours and form ensure popularity for *Banksia*. *Banksia* bloom is an inflorescence comprising many hundreds of individual flowers. The most common colours are yellow, orange, green, brown and red. *Banksia* species are relatively new to cut flower industry and there has been little emphasis placed on cultivar development. Some *Banksia* sp. used as cut foliage and another some sp. used as pot plants. *Banksia* wood and cones are turned or incorporated into ornaments and the timber of some sp. has been used for furniture.



*Leucospermum*:

*Leucospermum* species are evergreen woody perennials with growth habits that range from small trees to spreading shrubs to prostrate ground covers. The genus *Leucospermum* consists of 48 species confined to Southern Africa. Only a few species have been utilized as cut flowers (*L. cordifolium*, *L. patersonii*, *L. lineare*, *L. conocarpodendron*, *L. vestitum*), but natural and manmade interspecific hybrids exist as clonal selections that are grown commercially. Other species are being examined for their potential to contribute disease resistance, foliage traits, and extended flowering seasons.



*Leucospermum* species suitable for potted plants are of two types :

Single large inflorescence (eg.) *L. cordifolium*, *L. lineare* and *L. tottum*

Multiple inflorescences (conflorescences) viz., *L. oleifolium*, *L. muirii* and *L. mundii*

The most widely grown *Leucospermum* species are floriferous, spreading shrubs on which relatively short-stemmed inflorescences are borne in the spring. Their potential as flowering potted plants was recognized when budded cuttings flowered after rooting. The suitable climatic regions for production of *Leucospermum* are Taiwan, China, Korea, Southern France, Corsica, Chile and El Salvador.

*Portea*:

The most widely known genus of the Proteaceae. The name *Protea*, given by Linnaeus in 1753, referring to the Greek mythical god, Proteus. The genus *Protea* is only found in sub-Saharan Africa and currently 114 species are described, with 14 subspecies recognized. While the prominent use of *Protea* today is as fresh or dried flower, the plant has had many uses in the past. The bark of *P. nitida* was used in the tanning of leather and the leaves as a source of black ink. *Protea* also had their uses in traditional medicine. The nectar of *P. repens*, which is produced in copious amounts was used by early European settlers as a remedy for chest disorders after being boiled to a syrup. The bark of *P. caffra* is used to treat bleeding stomach ulcers and diarrhea.

The following important *Protea* species used in the dried flower trade are :

Species	Trade Name
<i>P. repens</i>	Repens flower, rosette
<i>P. compacta</i>	Compacta flower, rosette
<i>P. magnifica</i>	Barbigera flower
<i>P. susannae</i>	Susannae rosette
<i>P. neriifolia</i>	Neriifolia bud
<i>P. obtusifolia</i>	Obtusifolia flower

The following *Protea* species are used in the cut flower trade :

Protea species	Trade Name
<i>P. cynaroides</i>	King
<i>P. eximia</i>	Duchess
<i>P. repens</i>	Sugarbush
<i>P. neriifolia</i>	Milk
<i>P. scolymocephala</i>	Scoly

*P. cynaroides* is the national flower of South Africa and is the symbol of its sports teams.

**Leucadendron:**

The total number of Proteaceous cut stems around the world is about 100 million and leucadendrons probably account for at least half of this total. Israel alone produces more than 35 million branches annually-about 25% of all the cut foliage exported from this country. All leucadendrons provide good cut foliage, but one of them, *L. 'Safari Sunset'*, a *Leucadendron* hybrid developed some 40 years ago in New Zealand, is the most popular. This single cultivar accounts for about 90% of the proteas produced in Israel. There are 24 species and six cultivars of *Leucadendron* that are currently exported from South Africa.

Four main groups under *Leucadendron* based on species (or) cultivar during different seasons include (1) Foliage-cut branches are sold for their attractive foliage, which is relatively uniform along the whole length of the branch. The color of foliage varies among species and

between specific clones : silver in silver tree (*L. argenteum*), green in 'green discolor' (*L. discolor*) and 'Pisa' (*L. coniferum* x *L. floridum*), and light green in male *L. platyspermum*. The product is available almost throughout the year, except when new growth is too soft (2) Attractive colorful "heads" – in these branches, when vegetative growth is stopped or slowed down and flowering commences, the large terminal leaves become colorful. These involucre leaves commonly mistakenly known as "bracts" change their color during the marketing season. The main colors are various shades of red and yellow. Particular examples are : *L. 'Safari Sunset'*, *L. 'Yaeli'*, *L. 'Inca Gold'* and *L. 'Gold Strike'*. Depending on the cultivar, the product may be available for long or short periods, though its shape and color may change in the course of the marketing season (3) Male colourful "heads"-inflorescence and surrounding involucre leaves as in red and yellow discolors (*L. discolor*). The marketing season is extremely short (two to three weeks). (4) Branches terminating in attractive female cones-the main examples are females of :*L. teretifolium*, *L. linifolium*, *L. galpinii*, *L. coniferum*, *L. salicifolium*, *L. platyspermum* and the cultivar 'Jubilee Crown' (*L. laureolum* x *L. salignum*). Some species or cultivars may be sold with attractive colorful involucral leaves and cones (e.g., *L. 'Safari Sunset'*). This type of product has a long marketing period.

Seeds are used for propagating *Leucadendron* for two reasons. Firstly, many of the *Leucadendron* branches sold on the world market are still harvested from seed-propagated species. This is especially true in South Africa, where most of the production is based on broadcasting seeds on ripped ground and not on vegetatively propagated cultivars. The second reason is that propagating from seeds is part of the process of breeding new cultivars.

*Leucadendron* is probably one of the best decorative foliage plants available in the flower market. Its product characteristics are excellent, long vase life and its stems are straight, making it very easy to pack efficiently. The colour of the foliage ranges from bronze red through yellow to various shades of green and silver grey

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