



NSW Agriculture

Growing Blandfordia (Christmas bells) commercially

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INTRODUCTION

Christmas bells (*Blandfordia*) are a relatively new cultivated cut flower crop with excellent commercial potential. The distinctive flowers have great consumer appeal, due partly to their long vase life. *Blandfordia* joins the select group of Australian native plants that sells as a feature flower, similar to a spray of orchids or an anthurium bloom. On the export market, cultivated flowers are more likely than bush-picked product to meet the necessary quality standards.

A small group of growers is producing flowers for domestic and export markets. The information in this Agnote is based largely on their experiences. As with any new crop, intending growers should be aware of

the problems that have been experienced. A small-scale trial plot is recommended.

Information on cultural practices is becoming available and, although there is still much to be learned, progress in crop management and – especially – harvesting, packing and marketing has made *Blandfordia* growing an increasingly feasible commercial enterprise.

A major obstacle in establishing *Blandfordia* commercially remains the lack of uniform clones and varieties to provide consistency of product with predictable flower sizes, appearance and quality.

Blandfordia is a protected native plant and a licence is required to grow it for commercial purposes (see 'Getting started'). The conditions pertaining to licences

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² Commercial Blandfordia growers.

Christmas bells are emerging as a crop with commercial potential.



for commercial export have recently changed and are described in more detail on page 7.

ABOUT THE PLANT

Blandfordia is the sole genus in the family Blandfordiaceae. There are four species in the genus: *B. grandiflora*, *B. nobilis*, *B. cunninghamii* and *B. punicea*, all endemic to eastern Australia. They are distributed along the coast of Queensland, NSW and Tasmania, with *B. grandiflora* occurring on the mainland and Fraser Island from 24 to 34 degrees S, and *B. nobilis* from 34 degrees S (Sydney) to around 36 degrees S. *B. cunninghamii* occurs in the Illawarra and the Blue Mountains and *B. punicea* is endemic to Tasmania.

Blandfordia grandiflora is the species most commonly grown commercially and these are among the most popular east-coast wildflowers.

The perennial plants are slow-growing and grass like. The strap-like leaves are V-shaped in cross section. Plants develop fleshy underground corms and fibrous roots. The bell-shaped flowers are arranged in clusters on erect stems (30–120cm long), which extend above the foliage.

The flowers appear mostly between November and February, but some may be found throughout the year. Peak flowering occurs around Christmas, hence the common name. During the flowering period, Christmas Bells are frequented by nectar feeding birds, particularly honeyeaters. The number of flowers per stem varies, as does their colour. The most common form is red with a yellow edge, but bells vary from dark red with yellow edging to all yellow. Long narrow

capsules develop from the flowers and contain small, brown velvety seeds when mature.

In its natural habitat, *Blandfordia* spp. grows in sites with a high water table. So while soil in the root zone is not waterlogged, deeper levels of the profile are. Plants are long-lived (10 years or more), although it is not known how long they will be productive under cultivation. Plants can be grown from seed and usually take three years to flower. Older plants can be divided to obtain new plants. Plants have also been tissue cultured. So far this approach has not been as successful as hoped, with the plantlets tending to remain small and producing small flower stems. They do, however, show uniformity of colour and size, and more work is warranted to achieve true to type clones.

The trigger for flower initiation is not fully understood, but a period of cold temperatures (less than 10 degrees C) for four to six weeks appears to induce flowering. Plants also have to achieve a certain size before they will flower, and need sufficient water for stem elongation.

GETTING STARTED

Licensing requirements

Due to their popularity as cut flowers, *Blandfordia* have, in the past, been over-picked in the wild to the extent that localised species extinction has occurred. There has also been damage to the surrounding environment through poor picking or habitat modification practices carried out by pickers. Regular slashing and burning to change the habitat of *Blandfordia* has adversely altered the diversity and distribution of the species.

Because of its protected native plant status, a licence is required to grow *Blandfordia* for commercial purposes. Licences are available from the NSW National Parks and Wildlife Service (www.npws.nsw.gov.au) obtained on application to the local NPWS area office.

The conditions pertaining to the licences for commercial export have recently changed and are described in *Protected and Threatened Plants in the Cut-flower Industry – Management Plan 2002–2005*. These conditions apply to all commercial harvesters.

To ensure the harvest of *Blandfordia* is carried out in a sustainable manner, wild harvest is permitted only from plants growing on a licence holder's own property. An objective of the management plan is to phase out all forms of wild harvesting of this genus by 2005. In the interim, only the following licences will be issued for this species:

- grower¹ (propagated cut-flower), and
- grower (wild harvest cut-flower).

Encouraging the industry and market to support the higher quality cultivated flowers will stimulate further progress in propagation of the genus and help conserve the biodiversity of its natural habitat.

DISCLAIMER

The information contained in this publication is based on knowledge and understanding at the time of writing (October 2003). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Agriculture or the user's independent adviser.

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ALWAYS READ THE LABEL

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Tag system

The NPWS will inspect the subject land before issuing a licence. NPWS officers will assess the proposed harvest to ensure the applicant has sufficient plants on his property to justify the harvest quantity. A tagging system will operate to monitor harvest levels and distinguish between plants that have been wild harvested or propagated. Plants that have been harvested under a wild harvest cut-flower licence will require a **NPWS tag**. Plants harvested under a propagated cut-flower licence will require only a **grower tag** or other approved means of identifying the source of stems.

Obtaining plants

Blandfordia plants are available from a few specialist propagators (see page 8). If you want large quantities, you should order in advance. Alternatively, you can propagate your own plants from seed.

Collecting seed

To collect *Blandfordia* seed from natural populations for commercial purposes, you will need permission from the landowner and a licence from the NSW NPWS. Picking from national parks is prohibited, and heavy fines apply.

Flowers are self-fertile but cross-pollination is preferable as it results in more seeds per capsule. Pollination agents include birds and insects. Some honeyeaters (*Phylidornis* spp.) reach the pollen sacks by piercing the shoulder of the bells, making the flowers unsaleable.

After pollination the aging flowers wither and twist until the seed capsules, now 5–7cm long, point upwards. They develop and ripen over a few weeks, and can be picked when they fade from green to parchment.

Although the male parent is unknown there is considerable advantage in selecting seed from good plants. Stems bearing at least six flowers should be selected with full, well-developed capsules. With experience, the picker can distinguish the seed-heads of the rich red flowers by residual red markings on the stems – although this does not guarantee red-flowered progeny.

Each capsule consists of three longitudinal chambers like fused bean pods, and each chamber may contain 30 to 50 seeds. So, one flower may yield 150 seeds, and a selected stem up to a thousand seeds. Usually, though, the number is less than one fifth of this.

After picking, seed is sun dried, shelled, sorted and cleaned. Good large seeds give vigorous seedlings; seed from mature pods has the best germination.

¹ Under the Management Plan, NPWS distinguishes between licensed growers of cultivated flowers [who will hold a current Grower (propagated cut-flower) licence] and people picking flowers from natural stands of a protected species situated on their own property [who will hold a current Grower (wild harvest-cut flower) licence].



Christmas bells in a bouquet of native flowers.

Because of the difficulty in achieving improved planting material through tissue culture, several growers have attempted to obtain better seed, with the following plant qualities being sought:

- early flowering to meet the high priced October to December Japanese market
- long stems
- large multiple florets
- even colours – initially dark reds.

An alternative approach has been to set aside a fairly isolated area of naturally occurring *Blandfordia* for seed collection. Undesirable flowers (by form or colour) are removed as they appear. Seed collection is completed by the first week in January, ensuring it has come from early flowering plants.

Further selection and controlled crossing is seen as desirable while the industry awaits new developments from tissue culturing techniques. The disadvantage is the three years that it takes before the result of the selection or cross can be seen.

Known commercial suppliers of seed are listed on page 8.

Seeds are exempt from permit requirements under the *Environment Protection and Biodiversity Conservation Act (1999)*, unless they are considered threatened, are listed on CITES Appendix 1, or are specifically excluded from the exemptions list. If the seeds do not fall un-

der any of these categories, you will not need a permit to export them. At the time of writing, export of *Blandfordia* seeds is exempted from permit requirements.

GROWING THE PLANTS

Planting seeds

A potting mixture of 50% peat and 50% sand with the pH adjusted to around 5.0 (using a little lime) is suitable for germinating the seed. Fill a seed tray with the mix and level the surface. Sprinkle the seed as evenly as possible over the surface. A standard tray (25cm x 30cm) can take one thousand seeds. Planting a smaller number (say 750) will provide more space and sturdier plants, especially if the seedlings have to remain a longer time in the trays. Cover the seeds with a light sprinkling of the mix, and water lightly.

Do not let the seeds dry out at any stage – the rule is ‘keep them moist but not wet’. Ideally, keep the germinating trays of seeds in a greenhouse to protect them against rain. Keep moist with automatic misters or frequent gentle watering.

Germination usually takes three weeks, but can be faster in warm, humid weather and much slower in winter. The main dangers in the germination stage are fungal diseases, so regulation of watering is critical. Excess water and shade can also encourage the growth of moss that can retard and choke the seedlings. This is a problem in winter, especially during wet, cloudy weather.

Pest problems include cutworm attacks of the young seedling (exclusion of adult moths from the germination house will prevent this), and mice, which will sometimes eat the germinating seeds (which are raised in the air as happens with germinating onions).

Growth in the seedling stage is slow, and it will take 4 to 5 months for seedlings to reach a height of 5–6 cm. Begin fertilising with a weak solution of complete fertiliser (half the normal rate at fortnightly intervals) when the first true leaves have appeared.

Transplanting

Blandfordia seedlings are slow growing with little ability to adjust or to correct their posture. They are extremely tenacious: a poorly established plant with bent roots and one or more leaves buried will not usually die. Seed-grown plants show enormous variability. Even under the same good conditions, some plants will remain small while others leap forward.

As with most plant species, cull the worst specimens at transplanting. With *Blandfordia*, thin seedlings (from overcrowding) or young plants that have stopped growing (due to hard conditions) can still recover and make excellent growth. However, they are slower to establish.

Prick out seedlings from the germination trays after they have reached a height of 6–7 cm. If necessary,



Plants need to be kept weed-free.

they can remain in the trays for up to a year. As with some other species, transplanting invigorates *Blandfordia* plants, probably due to better nutrition and aeration. Taking them out, clean-rooting them and replanting can stimulate them to grow.

The preferred growing medium for *Blandfordia* is again a mixture of almost equal (by volume) quantities of peat and coarse clean sand. For small, young plants, the proportion of peat can be reduced to 25%. The pH should be between 5.0 and 5.5, achieved with additions of lime and dolomite.

Good results have also been obtained using pine bark ‘fines’ and/or composted hardwood sawdust as a part or complete replacement for peat in the medium.

Because of the considerable care still required for the seedlings, an intermediate stage after pricking out from the seed trays precedes their planting in the beds or pots where they will finally grow. Often this stage is in foam boxes with at least 120mm depth of medium to allow root development.

The seedlings are planted out in boxes at spacings of about 25–35 mm apart. Alternatively small pots of good depth can be used. A curious finding in using 75 mm diameter pots has been that placing more than

one seedling in the pot leads to faster growth – probably because of aeration and temperature factors closer to the side of the pot. Plants require regular watering and the application of a weak solution of fertiliser during this stage. Weeding is essential.

After 12 to 15 months in these nurturing containers the plants are transferred into the beds or, alternatively, 5–7 litre planter bags where they are to grow. The beds or bags are filled with the same growing medium of coarse sand and peat or sand, pine bark fines and/or composted sawdust. Three plants have been planted in the 200mm diameter bags. They may become root-bound and require re-potting after 5 or 6 years. In beds, a planting density of about 150mm between plants is suitable, giving about 50 plants per square metre.

Crop maintenance

Blandfordia plants grow well with ample water. In the summer, especially when flower stem elongation is proceeding, daily watering is essential. At the same time the water must be able to drain away. Plants standing in excessively wet areas do poorly and can be damaged by root rot.

Weeds are also a serious problem, especially stoloniferous invaders. *Blandfordia* does not compete well with weeds and if at any time weeds take over, regaining control is difficult. Results using chemical herbicides have been varied – with damage to plants and loss of crop at worst, but helpful in many limited applications. As weeds are probably the single most difficult factor, grower trials of herbicides are continuing. Keeping the plantings well weeded and using a good mulch (rice hulls, hardwood chips) are essential.

Crop nutrition

From experience, fertilisers are necessary to grow quality blooms. Some specific fertilising is essential, but over fertilising is deleterious.

Although *Blandfordia* in the wild grows healthily in nutrient poor soils, it responds well to fertilisers in cultivation. Lamont, Cresswell and Griffith² have described the plants' requirements and appropriate compounds for supplying them. Two different fertiliser regimes were compared and plants responded better to the following regime: 8 to 9 month slow release fertiliser (18N/2.6P/10K) applied to the soil or potting mix surface (5 kg per cubic metre) or a once weekly liquid feed supplying nitrogen and potassium in the ratio of 1N: 1.5K. High salinity in the growing medium (an EC of 3000 mS/cm) may cause plant roots to be susceptible to normally non-pathogenic organisms such as the fungus *Fusarium*.

Insufficient fertiliser can retard growth and cause a mass of fine fibrous 'seeking' rootlets. Over-fertilised

plants can become distorted, with unnaturally large leaf bases and flower stems up to 2.5 cm thick. Such plants will also have short, fat storage roots and little other underground development. Excessive fertiliser may also cause leaf tip burn and reduce root growth.

Use two separate solutions of soluble fertiliser to avoid the precipitation of other salts with calcium nitrate. Prepare one of calcium nitrate only and another containing all elements except calcium nitrate. Regular application at fairly low concentrations has given excellent results. More work is needed to define optimum fertiliser treatments.

Calcium appears implicated in a condition whereby florets fail to develop fully and tissue breakdown occurs in a circle around the newly forming floret. This area is soon attacked by fungi. Losses can be considerable. Calcium is also believed to be a factor in stem twisting.

Boron deficiency recognised as bud abortion in a number of cultivated flowers (including exotics) made its first significant appearance in *Blandfordia* in the 1999 harvest. This followed a very wet year and occurred in beds exposed to the weather. Treatment trials with foliar spraying have begun.

Pests and diseases

Blandfordia grandiflora appears to be susceptible to soil-borne pathogens, namely *Pythium* species and *Phytophthora* species. Wet conditions and poor drainage must be avoided in the cultivation of *Blandfordia*. *Botrytis*, or grey mould flower rot, has been observed during storage or shipment. It may be favoured by hot, humid conditions or by storage at too low a temperature. Allowing pre-harvest fungicidal sprays to dry completely before packing will also reduce the risk of *Botrytis*.

Helicoverpa armigera (corn earworm), *Epiphyas postvittana* (light brown apple moth), *Pseudococcus longispinosus* (long tailed mealy bug) and thrips have been identified as the main insect pests of *Blandfordia*. *Pseudococcus longispinosus* has proven to be the most intractable pest problem. Other insect pests encountered are scale and aphids. Rats may attack corms, especially those in pots and planter bags.

Growing environment

Blandfordia plants grow well under shade. However, too much shade at flowering gives paler flowers. Total enclosure inside a shade house will protect flowers from damage by birds and larger insects – especially *Helicoverpa* moth, which is prevalent north of Port Macquarie. The use of 30% shade cloth has proven satisfactory.

HARVEST AND HANDLING

The time to harvest is illustrated in the [accompanying poster](#). The aim is to harvest early enough to cause the

² *Horticultural Science*, 1990, Vol. 25 (11), pp 1401–1402.

least damage in handling and transporting, but to have the flowers nicely opening when unpacked at the market destination.

Storage

The use of floral preservatives such as sucrose and silver thiosulphate does not improve the vase life of *Blandfordia*. Stems respond well to cool storage and appear not to be sensitive to ethylene.

Flowers can be stored at 1°C for at least 30 days. At 1°C there is no bud opening at 2 weeks. Flowers stored at 1°C kept just as well when packed dry in plastic bags as they did when stored in water. Stems stored at 10°C for 1 week have a vase life of 6 days when transferred to 20°C. The vase life of stems held for 2 weeks falls to 4 days. Stems stored at 5°C for 2 weeks have a vase life of 7 days at 20°C and 8 days when stored at 1°C. Bud opening is not stopped at 10°C and is only slightly retarded when stems are stored at 5°C.

Worrall and Wade (1996)³ recommend on-farm cooling, including forced-air cooling, before shipping.

Market requirements

Flower colour

Blandfordia occurs in a range of colours in nature ranging from light yellow to dark red with various mixtures of red perianths with varying widths of yellow lobes at the end of the tube.

Most colours and mixtures are welcome on the markets, but for an international trade commodity, standardised colours are desirable. As flower numbers increase and some segregation of colour types has been achieved, it is now normal to [separate yellow, orange, yellow-red and red types](#) and export them in separate labelled cartons.

Flower heads

The flower stems carry varying numbers of florets. On the local market, stems with less than four florets are not attractive (though they do appear in the markets).

Packing

Bunching the stems into bundles of five has proven of value in packing for both domestic and export sales.

The stems, having been cut and graded, are brought together with the florets of the second, third, fourth and fifth stems packing under those of the preceding stem so that a tight self-supporting bunch is formed (see figure 1). The stems are fastened (with string, elastic bands or soft plastic-coated tie-wire) below the flowers and again near their base, and the stems are trimmed for neatness. (Stems are measured from the bottom

cut to the point of connection of the uppermost bud. If possible, cut to 2 or 3 cm longer than the stated grade, allowing for later trimming. If some stems are marginal for the grade length, they can be used as the fourth or fifth stems in a bunch.) Use of sleeves is recommended on each bunch, keeping the buds together as a unit and preventing florets becoming entangled.

Exporting cut flowers

The export of *Blandfordia* is covered by the Federal *Environment Protection and Biodiversity Conservation Act (1999)* and associated regulations. Environment Australia regulates this process (www.ea.gov.au/biodiversity/trade-use). If a person wishes to export *Blandfordia* as cut flowers the following will apply:

- Where flowers are taken from plants growing in the wild, a licence from NSW NPWS is required. When applying for an export permit, a copy of the NSW licence must be produced.
- Where plants have been artificially propagated a NSW NPWS licence is required. A copy of this licence will be required before an export permit can be given.

To apply for an export permit, telephone Wildlife Permits and Enforcement on (02) 6274 2768.

The management plan *Protected and Threatened Plants in the Cut-flower Industry – Management Plan 2002–2005* is available at: <http://www.ea.gov.au/biodiversity/trade-use/sources/management-plans/index.html>

Grading for export

For export, stems are graded in two ways:

1. Stem length: Straight, undamaged stems are required. 50, 60, 70, 80, 90 and 100cm lengths are packed in separate cartons and labelled accordingly.
2. The number of florets per stem:
 - 50cm stems require a minimum of 5 florets.
 - 60cm stems require 6 florets.
 - 70cm and longer stems require 7 florets.
 - Short stems with 5 to 6 florets are graded 'A'.
 - Stems with 7 to 8 florets are graded 'AA'.
 - Stems with 8 to 12 florets are graded 'AAA'.
 - Long stems with more than 12 florets are graded 'Super'.

To be given a particular grading, all stems in the carton should qualify for that grade.

Exporting whole plants

Export permits may be issued for commercial purposes if the specimens being exported come from an approved artificial propagation program or an approved wildlife trade operation.

Where whole plants are being propagated, please contact the Wildlife Science and Management Section

³ R. Worrall and N. Wade, 1996, *Development of pre and post harvest disinfection and management technology for Blandfordia cut flowers*, final report DAN99A, Rural Industries Research and Development Corporation.

for information on how to have your operation approved as an artificial propagation program. This process is covered by section 303FL of the *Environment Protection and Biodiversity Conservation Act (1999)* and Regulations 9A.18 and 9A.25 of the *Environment Protection and Biodiversity Conservation Amendment Regulations (2001)*.

If you are not sure that your operation is artificial propagation, contact the Wildlife Science and Management Section, as the federal definition of artificial propagation is quite broad.

RESEARCH AND ADVICE

NSW Agriculture has carried out research into *Blandfordia* for more than 10 years. In 1988 it formed the **Blandfordia Research and Extension Group**, known as BREG, to foster the development of this species as a commercial cut flower. BREG is a discussion group of researchers, growers, advisers and other interested parties.

BREG has been successful in gaining research funding support from the Rural Industries Research and Development Corporation for several projects. The initial cooperative research project involved researchers in the Department of Crop Sciences (University of Sydney) and the School of Biological and Biomedical Sciences (University of Technology, Sydney). Other projects have involved officers from NSW Agriculture's Gosford Horticultural Research and Advisory Station and the Institute for Horticultural Development (Department of Primary Industries, Victoria).

Research topics included container production technology, control of flowering and definition of seasonal cycle, production of clonal stocks and development of export technology. Subsequent research emphasis has been on nutrition and weed control, requirements of field production and post harvest disinfestation and care.

BREG has worked systematically on several fundamental aspects of *Blandfordia* physiology and plant culture. Major producers have now successfully exported flowers for several seasons.

Consultants

The following experienced growers of *Blandfordia* are willing to help new growers become established.

Paul Dalley
Mountain Nursery
Trappaud Rd
Kempsey NSW 2440
Telephone: (02) 6562 7450
Fax: (02) 6563 1389

Gordon Dick
Southern Bells Nursery
PO Box 2390



Illustration: CORINE KING

Figure 1. The preferred method of bunching.

Port Macquarie NSW 2444
Telephone (02) 6585 0564
Fax: (02) 6585 0764

Researchers with *Blandfordia* experience include:

Dr Ross Worrall
NSW Agriculture
Locked Bag 26
Gosford NSW 2250
Email: ross.worrall@agric.nsw.gov.au

Dr Krystyna Johnson
Department of Environmental Sciences
University of Technology, Sydney
Westbourne St
Gore Hill NSW 2065
Email: krystyna.johnson@uts.edu.au

THE FUTURE

The future of *Blandfordia* as a cut flower on the world scene must be soundly based on experience, high production standards and proven research results. There is still a long way to go before such factors as long term productivity, yield and post-harvest care are fully understood. Selected, superior clones must be available to growers at an economic price. Market acceptability and price maintenance must also be further developed.

ACKNOWLEDGMENTS

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Known commercial suppliers of seeds

Australian Seed Company
PO Box 67, Hazelbrook NSW 2770
Telephone: (02) 4758 6132. Fax: (02) 4758 7022
Ellison Horticultural Pty Ltd
PO Box 365, Nowra NSW 2541
Telephone: (02) 4421 6670. Fax: (02) 4423 0859
Harvest Seed Company
325 McCarrs Creek Rd, Terrey Hills NSW 2084
Telephone: (02) 9450 2699. Fax: (02) 9450 2750
Royston Petrie Seeds Pty Ltd
PO Box 77, Kenthurst NSW 2156
Telephone: (02) 9654 1186. Fax: (02) 9654 2658
AustraHort Pty Ltd
PO Box 595, Cleveland Qld 4163
Telephone: (07) 3821 0745. Fax: (07) 3821 0746
Southern Bells
PO Box 2390, Port Macquarie NSW 2444
Telephone: (02) 6585 0564. Fax: (02) 6585 0764

Known commercial suppliers of plants

Mountain Nursery
Trappaud Rd, Kempsey NSW 2440
Telephone: (02) 6562 7450. Fax: (02) 6563 1389
Eastwood Nurseries Wholesale
91 Pemberton's Hill Rd, Mangrove Mountain
NSW 2250
Telephone: (02) 4374 1399. Fax: (02) 4374 1699

RECOMMENDED READING

Johnson, Krystyna and Margaret Burchett (eds) 1996, *Native Australian plants – horticulture & uses*, UNSW Press, Sydney (1996).

Johnson, Krystyna 1998, in *The New Rural Industries – A Handbook for Farmers and Investors*, RIRDC, Canberra.

Gollnow, Bettina 1999, *Getting Started in Native Flower Production*, NSW Agriculture.

Steain, Glenda and Gollnow, Bettina 2001, *Environmental Management Guidelines for Growing Cut Flowers*, NSW Agriculture.

Cut flower publications on the NSW Agriculture website: see www.agric.nsw.gov.au, then 'horticulture', then 'flowers & ornamentals'.

Carson, Cynthia et al. 2000, *Should I grow wildflowers?* Agrilink Horticulture Series QAL 0001, Queensland Department of Primary Industries, Brisbane. (For more information contact Agrilink Manager, Department of Primary Industries, PO Box 5269 SCMC, Nambour QLD 4560.)

Faragher, John, Tony Slater, Tony, Daryl Joyce, Daryl and Virginia Williamson, Virginia 2002, *Postharvest handling of Australian flowers – from Australian native plants and related species*, RIRDC publication No. 02/021, available from RIRDC – www.rirdc.gov.au.

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