

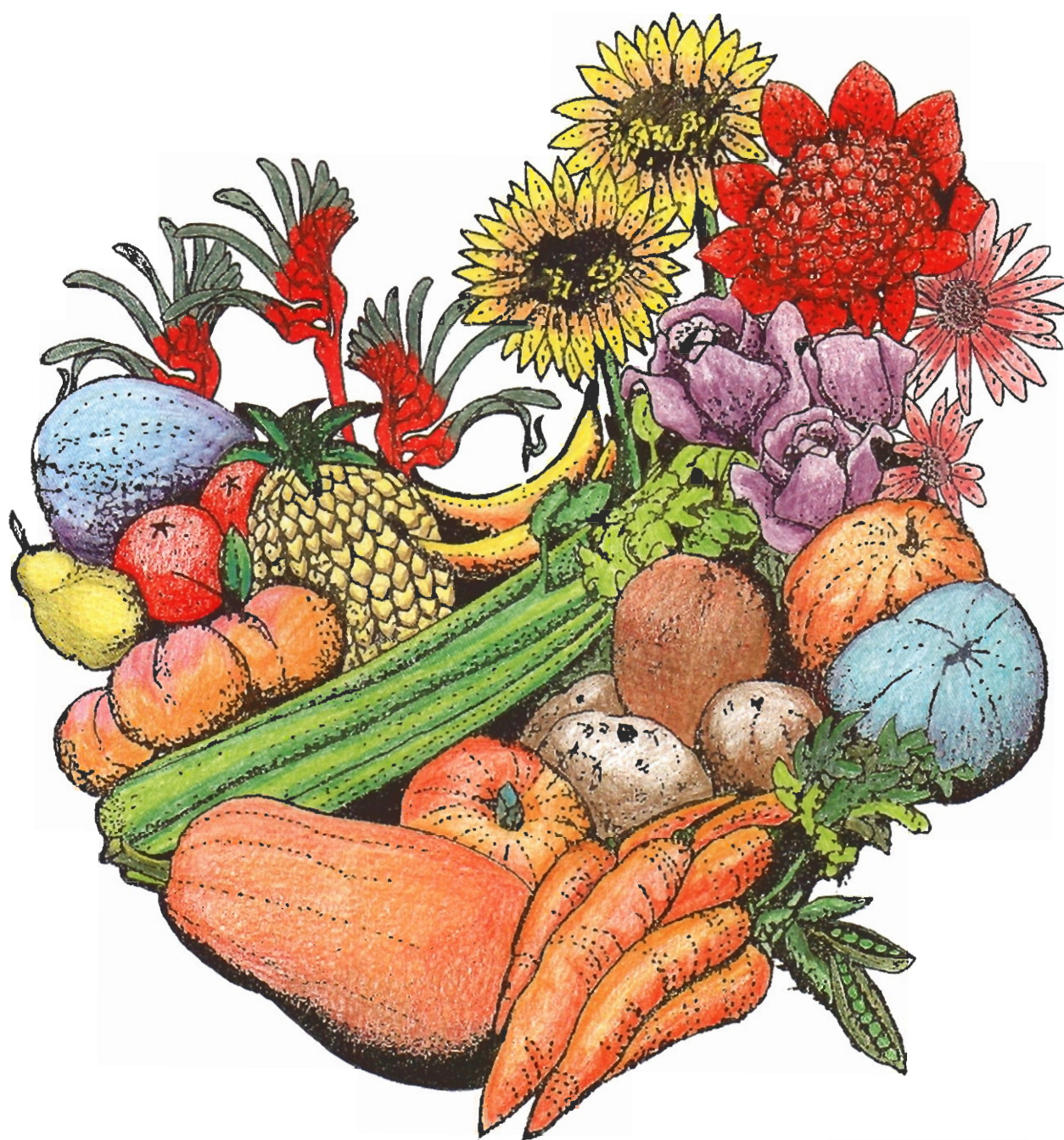


# Plant Varieties Journal

September 1990

Volume 3

Number 3



Official Journal of the Australian Plant Variety Rights Office

---

# CONTENTS

## REGISTRAR'S REMARKS

### PART 1 — ITEMS OF GENERAL INTEREST

Workshop on Methods of Variety Identification  
PVR and Patents — Expert Study  
Examination Fees  
Sale of Varieties before PVR Grant  
Use of Overseas Trial Data for PVR  
Origins of New Varieties  
Copies of Applications  
Staff and Office Matters  
UPOV

### PART 2 — MATTERS FOR PUBLIC NOTICE

PVR Granted  
PVR Refused  
Applications Accepted  
    a) descriptions finalised  
    b) descriptions to be finalised  
Applications Withdrawn  
Provisional Protection  
Corrigenda  
Appendix 1 — Section 14 of the PVR Act  
Appendix 2 — Section 23 of the PVR Act  
Appendix 3 — Fees  
Appendix 4 — Plant Variety Rights Advisory Committee (PVRAC)  
Appendix 5 — Organisations Offering to Undertake PVR Trials  
Appendix 6 — Amendment to s12 and s38 of the PVR Act

Subscription

Available from the Australian Government Publishing Service, GPO Box 84, Canberra, ACT, 2601.

ISSN 1030-9748

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced without written permission from the Director Publishing and Marketing AGPS. Inquiries should be directed to the Manager, AGPS Press, Australian Government Publishing Service, G.P.O. Box 84, Canberra, A.C.T. 2601.

Printed in Australia by Ambassador Press Pty Ltd, Sydney.

---

---

---

## REGISTRAR'S REMARKS



**Ben Loudon**  
**Acting Registrar of**  
**Plant Variety Rights**  
**PLANT VARIETY RIGHTS OFFICE**  
**GPO BOX 858**  
**CANBERRA ACT 2601**

Plant Variety Rights is continuing the momentum to becoming a successfully established scheme, consolidating and expanding the progress already made. To date, there have been over 250 applications made and 73 rights granted. Although there has been a recent decline in the volume of overseas applications, there has also been a noticeable increase in the volume of applications for Australian bred varieties. The recently increased level of investment in Australian plant breeding programs will probably result in an even greater volume of applicants. With over 160 applications in 1990, the size of the scheme and level of participation is likely to rise much further.

The PVR Office continues to work towards more efficient operations, providing the community with no more than is necessary for an effective scheme, granting valid rights on legal and technical parity with other UPOV member countries. The Office has developed an empathy with the plant industries with sensitivity to their needs and advice. PVR Office also has an active participation in UPOV matters and is pursuing bilateral arrangements where possible to facilitate the international flow of varieties. These arrangements are of particular interest where Australian bred varieties are given access to PVR in overseas countries.

The current Plant Variety Rights Advisory Committee was appointed in September 1987 for a 3 year period and will be meeting for the last time this month. Although their task of advising on Genera for inclusion is complete, their role in PVR remains active and important. A new committee will be appointed in 1991 and, there will undoubtedly be re-appointments from the current committee. The members have, unanimously, been able to put any vested interests aside and give measured constructive advice on issues confronting the PVR Office and its future. The presence of such a committee is a successful component of the scheme and current members have set a high standard. As Registrar and Chairman, I thank them.

The future of PVR in Australia will probably see many changes in response to international developments. It is important that Australia keeps pace with these changes and has the best incentives and legislative climate to take advantage of new technology. The delay in implementing Australian PVR has already provided enough examples of opportunities lost. I urge readers of this Journal to take an active interest in PVR matters and, in particular, to comment on descriptions published. Thanks to those who have already taken the trouble.

---

---

### CLOSING DATE FOR DECEMBER ISSUE: 24 OCTOBER 1990

Contact Numbers:	Registrar:	Ben Loudon	06 2716472
	Examiners:	David Thearle	06 2716451
		Libby Pulsford	06 2724306
		Andrew Keal	06 2716476
	Administration:	Miriam Nauenburg	06 2724228
	Facsimile:		06 2723650

---

## PART 1 — ITEMS OF GENERAL INTEREST

### Workshop on laboratory identification of plant varieties

The PVR Office, with the Horticultural Research and Development Corporation (HRDC), held a workshop in May to assess industry needs and research in varietal identification methods. There were invited participants from the various horticultural industries, research organisations and interested government departments.

Presentations gave an overview of the importance of correct varietal identification to the horticultural industry; the requirement for accurate varietal descriptions for PVR purposes; biochemical methods available which assist in varietal identification and current research being undertaken in the area.

The workshop discussed horticultural industry priorities for varietal identification; developing services offering laboratory identification of varieties; and the most appropriate methodologies to be used.

Participants provided the workshop with position papers. These, along with a summary of discussions and the recommendations made to the HRDC, are available in the proceedings of the workshop. Copies are available from the PVR Office for \$5.00 each. Please make cheques payable to the Collector of Public Monies, but send them to the PVR Office.

### PVR and Patents — expert study

Plants (and other living material) may also be the subject of patent protection in Australia if they are the product of a patentable invention. There is overlap between PVR and Patents which will probably increase with new biotechnology being applied to plant breeding.

The joint PVR and Patent Office workshop on INTELLECTUAL PROPERTY PROTECTION FOR PLANTS in July 1989, highlighted the need for harmonised coexistence of both schemes covering plant material (see PVJ Vol.2 no.3 p.3).

Following on from that workshop, Dr Noel Byrne from University of London, has been engaged by the Australian Patent Office and the Australian Plant Variety Rights Office to conduct a study. There was a public call for submissions in the national newspapers on 8 August and also direct invitations made to organisations with a known interest in the topic.

The terms of reference are: *to undertake a study of issues raised by the present systems of legal protection of plants (including plant material) in Australia under patent and plant variety rights legislation and their interaction and to make recommendations as to any measures (including*

*legislative and administrative measures) that would facilitate and simplify usage of the patent and PVR systems or would otherwise seem convenient or necessary.*

The expert will be required to —

- consider relevant studies and reports previously undertaken or prepared in Australia
- consider submissions from the Patent and Plant Variety Rights Offices
- consider the impact of relevant international arrangements and their possible evolution
- seek and consider views from interested parties in Australia relevant to the terms of reference.

The study reinforces the cooperation of both offices and may help to clarify the role of Australian patents in protecting plant material.

### Examination fees

Fees charged are set by schedule in regulations (see appendix 3) but the timing of payments is flexible to take account of the processing of applications. There are several options for payment of examination fees:

- they can be paid in full when an application is lodged; **OR**
- within 3 months of an application being lodged if PROCEED IMMEDIATELY is advised by applicant; **OR**
- 25% when the application is lodged and the remaining 75% of the current examination fee at the advised PROCEED date.

For applications which do not proceed within 12 months, 25% of the current examination fee will be due each year if an extension is granted to the applicant.

If the application remains valid but not finalised after 100% of the examination fee is paid (that is, over 3 years since application), the reexamination fee will then be due.

### Sale of varieties before PVR grant

#### Before applying for PVR

Plant breeders wanting PVR must not sell plants of a variety BEFORE applying. To be eligible for PVR, a variety must be new and the test for newness in the Plant Variety Rights Act 1987 is prior sale. Section

---

14 of the Act (see appendix 1) disqualifies any varieties which have been previously sold in Australia before making an application. It also disqualifies varieties sold overseas earlier than 6 years. Section 14 only applies, however, if the sale of a variety is *with the consent* of the breeder.

Prior sale of a variety in Australia WITHOUT the consent of the breeder will not disqualify the breeder from making an application. It was not intended that pilfering or unauthorised sale of a variety could prevent a breeder from subsequently applying for PVR.

The Registrar could also grant rights to a variety previously sold in Australia without the breeder's consent, even if it was legitimately purchased in another country and then imported to Australia. Plants and seeds are not normally sold labeled with a condition that they are not to be exported. But this, of course, does not necessarily give an implied licence to export them to another country and disqualify the breeder's rights there.

#### After applying but before grant of PVR

Once an application is accepted, Section 14 no longer applies. A variety may be sold and still proceed to granting of rights. Provisional Protection may also be retained if the sales are for a prescribed purpose (see PVJ Vol.3 No.2 page 2).

Should, however, an application lapse subsequent to those sales, there is no provision exempting Section 14 which would allow for reapplication. Applicants who sell in this period should therefore take care to pay due fees and provide information requested by PVR Office within the stated time.

## Use of overseas trial data for PVR

Applicants for PVR must show that their variety is distinct from any other varieties known in Australia. Evidence for this is normally gathered from a comparative growing trial and the trial is normally but not necessarily carried out in Australia.

Overseas data can be used (see previous PV Journals for examples). Section 23 of the *Plant Variety Rights Act* (see appendix 2) sets the conditions that must be met when doing this. It is possible to prove a variety distinct from Australian varieties from trials in another country. Australian known varieties must be included in the trials for data to be relevant.

In Section 23, the information needed to "satisfy the Secretary . . ." is **actual objective evidence** in the form of scientific data. For examples: a trial in the overseas country compared to an equivalent trial in Australia; objective data showing that specific characteristics are still expressed when there are large changes in daylength and light intensity; evidence that the overseas site is climatically equivalent to some area of Australia.

This information need not be extensive but it must be valid.

Test reports from overseas PVR testing authorities are acceptable data but do not automatically substitute for the Australian examination requirements. PVR Office still needs to publish a description for public comment and also field examine the variety in Australia.

One discrepancy between Australian PVR applications and overseas test reports is that measurements are requested and published. This is particularly so for vegetatively propagated species where the same characteristics are normally ranked against example varieties and empirical data is meaningless. The Australian requirement is an artifact of breeder testing and the measurements are requested **only** as a means of ensuring the ranking of characteristics is unbiased. Measured data is, of course, necessary for verifying statistical differences between seed propagated (population) varieties.

Bilateral agreements will be implemented between Australia and other UPOV countries and these will, of course, have a sound technical basis. For example, the PVR Office has already made preliminary investigations to obtain Section 23 data, reconciling Netherlands Authorities (CRZ) test reports with Australian growing trials for *Alstroemeria*. So far, it looks promising.

## Origins of New Varieties

The application form for Plant Variety Rights, 'Part 1 — General Information' was revised in February this year and printed in Appendix 3 of PVJ Vol.3 No.2. One of those revisions was to question 13 ('Origins') which was renamed as 'Method of Origination' and expanded in order to clarify its meaning. The question is intended to show the breeding efforts made by the applicants. It was not intended to ask for the geographic and historic origins of the source material. The source of the material is, however, relevant to the breeding activities and should also be stated.

The source of the plant breeder's materials is recognised to include other varieties, collected germplasm, members of a gene pool, genotypes and individual genes. All materials occur naturally somewhere or somehow. Even induced mutations could, (and possibly do), occur naturally. The pre-existence of plant or genetic material used in new varieties does not prevent PVR from protecting those new varieties.

Collection and discovery are important components but are not, as such, breeding efforts eligible for PVR and particularly not the "discovery" of another breeder's variety. In the *Plant Variety Rights Act 1987*, a new plant variety is one which was originated by a person as well as being distinct, uniform and stable. The Minister's second reading speech made it clear that the intention of the Act is to provide incentive by rewarding breeding effort and that some human intervention must have taken place.

---

Discovery and collection ONLY become a part of the plant breeding process when that material is brought into cultivation and is evaluated along with a population of other cultivated plants suited for a similar purpose. Here, the plant breeding processes do not include actually generating the variations by controlled crossing or such but are valid methods.

This process, the origination of a cultivar (see PVJ Vol.1 No.3 p.3), is similar to other plant breeding processes which do not involve deliberate pollination. Human induced (or natural) mutation and selection or genetic manipulation and selection are similar examples.

## Copies of Applications

Applicants have been previously required to send 8 copies of applications. They were originally required for examination purposes and for purchase of copies by the public (see appendix 3).

PVR Office has reviewed procedures and now requires applicants to submit only **3 copies of the application**. For the Register, however, **8 prints of the photograph** are still required.

## Staff and Office Matters

The PVR Office has now moved from NFF House to new premises in Edmund Barton Building. The mailing address and telephone numbers are the same. Our new location is:

Plant Variety Rights Office  
Wing 3, Floor 1,  
Edmund Barton Building  
(core 3 entrance)  
Broughton St  
BARTON 2601

Our new premises have more space than before and our office facilities include a PVR technical examination room and a conference room. Visitors to PVR Office, with prior arrangement, are welcome.

PVR Office will be host to an 8 week visit by Valerie Sisson, Chief of Plant Breeders Rights Office, from Canada, arriving in September. Canadian Plant Breeder's Rights legislation has received Royal Assent in June this year and they will be establishing a PVR Scheme over the next few years.

Australia and Canada share similar cultural, historic and legislative backgrounds and also share a long delay in introducing PVR. Valerie will, therefore, be here to study the implementation of our PVR scheme and work within our office to study our methods of operation. On this visit, she may also visit New Zealand to study their PVR scheme.

## UPOV

Member states of the UPOV convention are currently considering revisions to that convention (see PVJ Vol.2 No.4 p.3). The Registrar is participating in the international preparatory meetings and has also involved the PVR Advisory Committee in presenting the Australian position.

Since these revisions have no direct or immediate impact on PVR in Australia, the proposed changes or their implications have not yet been presented in this Journal to invite discussion. A revised UPOV Convention would, however, be important in future years. Interested parties are welcome to contribute to discussion and may obtain copies of the most recent proposals and other papers from the Registrar.

In general terms, most of the proposed changes are intended to strengthen the plant breeder's right. They remove exemptions which are now seen to impair the function of PVR in schemes which have been running for a long time (over 30 years). The next UPOV Preparatory Meeting is in October, 1990 followed by a Diplomatic Conference scheduled for March, 1991.

---

## PART 2 — MATTERS FOR PUBLIC NOTICE

---

### PVR GRANTED

Plant Variety Rights have been granted under Section 26 of the *Plant Variety Rights Act 1987*, and entry has been made in the Plant Varieties Register, for the following varieties:

1. **'Pink Candles'** (Application No. 89/081)

*Acalypha chamaedrifolia*

Grantee: John Churchus of Pixie Plants, Devon Meadows, Victoria  
Certificate No 49

Expiry Date: 19 September, 2009

2. **'Bridgeport'** (Application No. 89/094)

*Schlumbergera truncatus* hybrid

Grantee: B L Cobia Inc of Florida USA  
Certificate No 50

Expiry Date: 31 October, 2009

3. **'Cambridge'** (Application No. 89/095)

*Schlumbergera truncatus* hybrid

Grantee: B L Cobia Inc of Florida USA  
Certificate No 51

Expiry Date: 31 October, 2009

4. **'Orange Fantasy'** (Application No. 89/097)

*Schlumbergera truncatus* hybrid

Grantee: B L Cobia Inc of Florida USA  
Certificate No 52

Expiry Date: 31 October, 2009

5. **'Santa Cruz'** (Application No. 89/098)

*Schlumbergera truncatus* hybrid

Grantee: B L Cobia Inc of Florida USA  
Certificate No 53

Expiry Date: 31 October, 2009

6. **'Apollon'** (Application No. 89/032)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 54

Expiry Date: 17 July, 2009

7. **'Argus'** (Application No. 89/033)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 55

Expiry Date: 17 July, 2009

8. **'Aurore'** (Application No. 89/034)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 56

Expiry Date: 17 July, 2009

9. **'Celerio'** (Application No. 89/035)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 57

Expiry Date: 17 July, 2009

10. **'Delias'** (Application No. 89/036)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 58

Expiry Date: 17 July, 2009

11. **'Epia'** (Application No. 89/037)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 59

Expiry Date: 17 July, 2009

12. **'Eurema'** (Application No. 89/038)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 60

Expiry Date: 17 July, 2009

13. **'Flambee'** (Application No. 89/039)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 61

Expiry Date: 17 July, 2009

14. **'Jasius'** (Application No. 89/040)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 62

Expiry Date: 17 July, 2009

15. **'Marumba'** (Application No. 89/041)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 63

Expiry Date: 17 July, 2009

16. **'Mimas'** (Application No. 89/042)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 64

Expiry Date: 17 July, 2009

17. **'Saturnia'** (Application No. 89/043)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 65

Expiry Date: 17 July, 2009

18. **'Selenia'** (Application No. 89/044)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 66

Expiry Date: 17 July, 2009

19. **'Thecla'** (Application No. 89/046)

*Impatiens hawkeri* hybrid

Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 67

Expiry Date: 17 July, 2009

## ALSTROEMERIA (*Alstroemeria* hybrid)

21. '**Arctia**' (Application No. 89/048)  
*Impatiens hawkeri* hybrid  
Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 69  
Expiry Date: 17 July, 2009

22. '**Phoebis**' (Application No. 89/099)  
*Impatiens hawkeri* hybrid  
Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 70  
Expiry Date: 10 November, 2009

23. '**Sylvine**' (Application No. 89/100)  
*Impatiens hawkeri* hybrid  
Grantee: Kientzler KG of Gensingen, West Germany  
Certificate No 71  
Expiry Date: 10 November, 2009

24. '**Narayan**' (Application No. 89/082)  
*Cicer arietinum*  
Grantee: CSIRO Division of Tropical Crops & Pastures  
Certificate No 72  
Expiry Date: 26 September, 2009

25. '**Amarillo**' (Application No. 89/083)  
*Arachis* sp.  
Grantees: The Minister for Primary Industries for and on behalf of the State of Queensland, CSIRO Division of Tropical Crops & Pastures and the Minister for Agriculture and Rural Affairs in the right of the State of New South Wales  
Certificate No 73  
Expiry Date: 6 October, 2009

### PVR Refused

'**Rosedale**' (Application No. 89/015)  
*Trifolium subterraneum* spp. *brachycalycinum*  
Applicant: Minister for Agriculture, South Australia  
Date of refusal: 18 June, 1990

### Applications

The PVR applications listed below have been accepted under S18 of the *Plant Variety Rights Act 1987*.

#### a) Descriptions Finalised

Applications for PVR on the varieties described below have been accepted under S18 of the *Plant Variety Rights Act 1987*

The plants were grown at Monbulk, Victoria, from rhizomes planted in December 1989 in red kraznozem soil in multispan polythene greenhouses. All characteristics described are from stems cut in bud, placed in a solution of 5% sugar and 1 ml/litre chlorine bleach and transported to Devon Meadows, Victoria, in June 1990, where the flowers were allowed to open. Measurements are from 20 specimens.



Variety: '**Wilhelmina**' Application No. 89/092  
Accepted: 31 October, 1989  
Applicant: **Könst Alstroemeria B.V.** of Nieuwveens, Holland.

Australian Agent: **Maxiflora Pty. Ltd.**, of Monbulk, Victoria.

#### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: when picked in bud the outer tepals have an apical region in the greyed-purple colour group and a marginal zone in the pink group; absence of stripes on the outer tepals; inner lateral tepals bearing many stripes and coloured pink at the apical end and yellow at the basal end; an inner median tepal without stripes and coloured pink throughout.

#### Varieties used for comparison

'Serena' being the closest known variety.

#### Origin

This variety arose from controlled pollination of a variety of *Alstroemeria aurantiaca* by a butterfly type of *Alstroemeria*. 'Wilhelmina' was selected for development on the basis of flowering characteristics and was propagated asexually. 'Wilhelmina' has been protected by Plant Variety Rights in Holland since 1988 and has been sold in Holland since 1988.

#### Morphology — see comparison tables.

'Wilhelmina' has recurved leaves which are glabrous on the upper side and pubescent on the lower side. The inflorescence commonly has five peduncles. The outer tepals are obovate with a cuspidate apex and have green tips. The inner tepals are oblanceolate with a cuspidate apex and a green tip. The stamens have dark pink filaments and brown anthers. The style is also dark pink.

'Wilhelmina' can be distinguished from 'Serena' in having a smaller green apical bulge on the under side of the outer tepals. 'Wilhelmina' has darker pink filaments and styles, and darker brown anthers, than 'Serena'. 'Wilhelmina' has shorter, narrower leaves and narrower tepals than 'Serena'. 'Wilhelmina' outer tepals have a pink marginal zone and bear no stripes, in contrast to the outer tepals of 'Serena'



which have an orange-white marginal zone and a single stripe. The inner median tepal of 'Wilhelmina' is greyed-purple in colour and bears no stripes, in contrast to 'Serena' in which it is orange-white in colour and bears a medium number of stripes. The inner lateral tepals of 'Wilhelmina' have many stripes and are yellow in the basal region, like those of 'Serena', but differ in having a greyed-purple apical region in contrast to the orange-white apical region in 'Serena'.

'Wilhelmina' flowers picked open differ in colour from those picked in bud in having greyed-purple, instead of pink, outer tepal marginal zones, and greyed-purple, instead of pink, inner tepals.



Variety: 'Serena' Application No. 89/093  
Accepted: 31 October, 1989  
Applicant: **Könst Alstroemeria B.V.** of Nieuwveens, Holland.

Australian Agent: **Maxiflora Pty. Ltd.**, of Monbulk, Victoria.

#### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: when picked in bud the outer tepals have an apical region in the greyed-purple colour group and a marginal zone in the orange-white group; the outer tepals bear a single stripe; outer lateral tepals coloured orange-white at the apical end and yellow at the basal end, bearing many stripes; an inner median tepal with a medium number of stripes and coloured orange-white throughout.

#### Varieties used for comparison

'Wilhelmina' being the closest known variety.

#### Origin

This variety arose from controlled pollination of a variety of *Alstroemeria aurantiaca* by a butterfly type *Alstroemeria*. 'Serena' was selected for development on the basis of flowering characteristics and was propagated asexually. 'Serena' has been protected by Plant Variety Rights in Holland since 1988 and has been sold in Holland since 1987.

#### Morphology — see comparison tables.

'Serena' has recurved leaves which are glabrous on the upper side and pubescent on the lower side. The inflorescence commonly has five peduncles. The outer tepals are obovate with a cuspidate apex and have green tips. The inner tepals are oblanceolate with a cuspidate apex and a green tip. The stamens have light pink filaments and green-brown anthers. The style is also light pink.

'Serena' can be distinguished from 'Wilhelmina' in having a larger green apical bulge on the under side of the outer tepals. 'Serena' has lighter pink filaments and styles, and lighter brown anthers, than 'Wilhelmina'. 'Serena' has longer, broader leaves and broader tepals than 'Wilhelmina'. 'Serena' outer tepals have an orange-white marginal zone and bear a single stripe, in contrast to the outer tepals of 'Wilhelmina' which have a pink marginal zone and no stripe. The inner median tepal of 'Serena' is orange-white in colour and bears a medium number of stripes, in contrast to 'Wilhelmina' in which it is pink in colour and bears no stripes. The inner lateral tepals of 'Serena' have many stripes and are yellow in the basal region, like those of 'Wilhelmina', but differ in having an orange-white apical region in contrast to the greyed-purple apical region in 'Wilhelmina'.



'Wilhelmina' top and 'Serena' bottom.  
(Graphs supplied by applicant.)

## Table of Comparison of *Alstroemeria* Varieties

	'Wilhelmina'	'Serena'
<b>OUTER TEPALS</b>		
colour of apical zone	greyed-purple	greyed-purple
RHS	186B	186C
colour of marginal zone	pink	orange-white
RHS	36C	159C
presence of stripes	absent	present
number of stripes	nil	one
<b>INNER LATERAL TEPALS</b>		
colour of apical zone	pink	orange-white
RHS	36C	159C
colour of basal zone	yellow	yellow
RHS	7A	7B
presence of stripes	present	present
number of stripes	many	many
<b>INNER MEDIAN TEPAL</b>		
colour of apical zone	pink	orange-white
RHS	36C	159C
colour of basal zone	pink	orange-white
RHS	36C	159C
presence of stripes	absent	present
number of stripes	nil	medium
<b>LEAF LENGTH</b>		
mean	121.4 mm	136.6 mm
range	108-142	118-153
std. deviation	10.5	10.0
<b>OUTER TEPAL WIDTH</b>		
mean	28.6 mm	31.55 mm
range	24-32	27-35
std. deviation	2.11	2.28
<b>INNER TEPAL WIDTH</b>		
mean	17.2 mm	20.25 mm
range	15-19	18-23
std. deviation	1.2	1.45
<b>LEAF WIDTH</b>		
mean	26.7 mm	31.5 mm
range	21-35	24-37
std. deviation	3.7	3.9

## CANOLA (*Brassica napus*)

### Comparative Growing Trials

All characteristics and comparisons below are from comparative growing trials conducted at the Plant Breeding Centre, Victorian Crops Research Institute, at Horsham, Victoria. The field trial was sown in May and data collected between September and December 1989. A randomised block design with three replications was used. The trial was sown at the rate of 5kg/ha in plots of 5 m length and 1 m width with 20 cm between rows. Measurements are from twenty plants from each replicate.

Seedling data were collected from a glasshouse trial. Seed of each variety was sown in a sand/pinebark mixture in a completely randomised design with

three replicates. Twenty seedlings were measured in each replicate.

Fatty acid profiles of seed were determined using gas chromatography. Seed was extracted with petroleum ether and transesterification was carried out according to Christie (*Gas Chromatography and Lipids*, 1989, The Oily Press, Scotland).

As evidence of distinctness and stability of 'Yickadee' and 'Barossa', the applicant has submitted HPLC chromatograms of seed proteins of all varieties. Differences in seed protein composition are apparent in the chromatograms as relative heights of 6 peaks occurring after 40 minutes. Reverse phase HPLC analysis of seed proteins was carried out as described by Appelqvist LA and Ohlsson R in *Rapeseed: Cultivation, Composition, Processing and Utilisation*, 1972, Elsevier, Amsterdam.



Variety: 'Yickadee' Application No. 90/025

Accepted: 20 February, 1990

Applicant: NSW Agriculture and Fisheries of Sydney, NSW.

Australian Agent: Ag-Seed Pty. Ltd., of Horsham, Victoria.

### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: 'Yickadee' is a spring oilseed canola with yellow flowers and seed with 42% oil content; seeds with no erucic acid and high (68%) oleic acid content; uniform anther dotting in plants; relatively long seed pods with a medium beak length and long pedicel; and a unique seed protein profile as shown by HPLC analysis.

### Varieties used for comparison

'Shiralee', 'Eureka' and 'Taparoo', varieties which are closely related to 'Yickadee' and prominent commercial varieties in Australia, and 'Global' and 'Optima', being varieties used as commercial controls in variety testing in the EC.

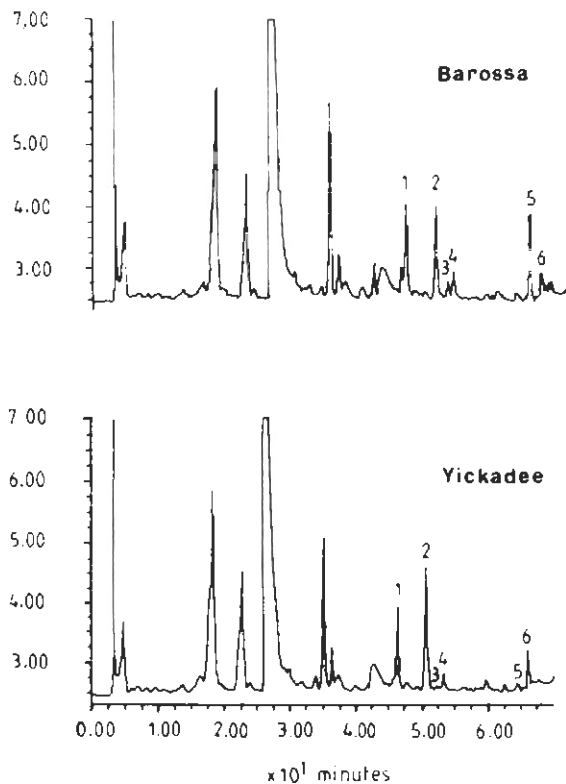
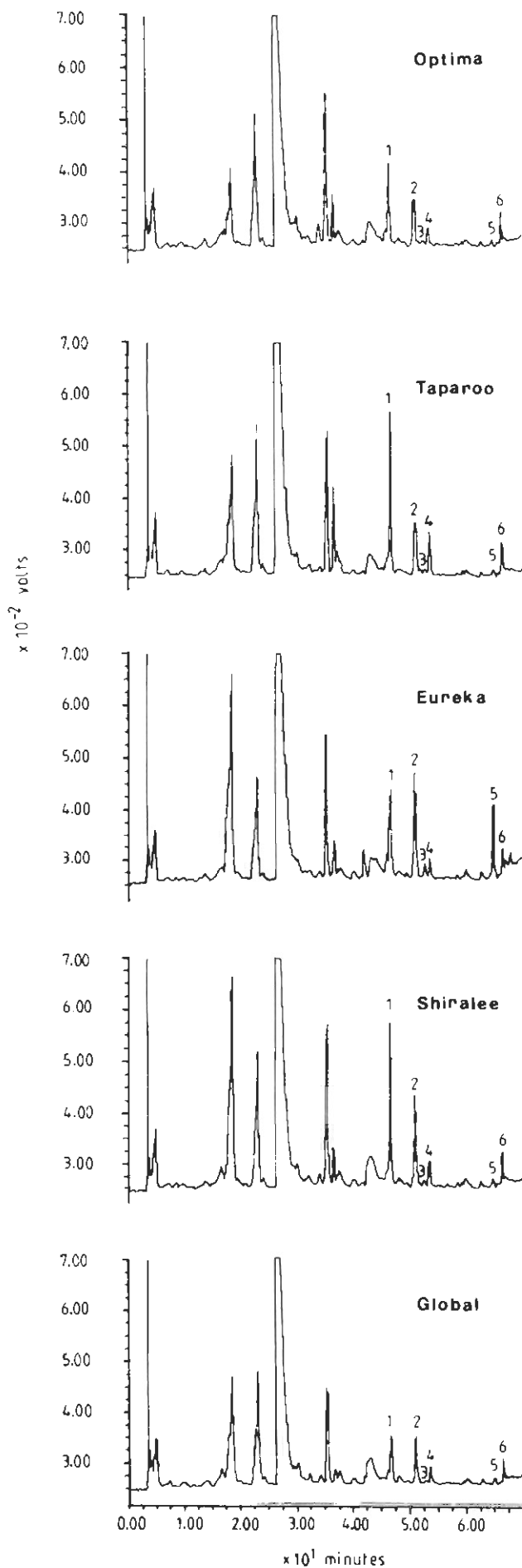
### Origin

'Yickadee' was developed by Mr N Wratten and Mr R Mailer of the Agricultural Research Institute, NSW Agriculture and Fisheries at Wagga Wagga. 'Yickadee' originated as a single plant selection, in 1985, in the F4 generation of the cross [Haya X (Zephyr X Bronowski)] X [Chisaya X (Zephyr X Bronowski)].

The criteria for selection included higher oil content, lower glucosinolate content and higher field resistance to blackleg disease, *Leptosphaeria maculans*.

### Morphology — see comparison tables.

'Yickadee' flowers later than 'Shiralee', 'Eureka' and 'Taparoo' but earlier than 'Global' and 'Optima'. Plants of 'Yickadee' are shorter than those of 'Global' and 'Optima'. Plants of 'Yickadee' display uniform anther dotting, similar to 'Optima', 'Global' and



HPLC chromatograms of seed proteins of 'Barossa' and 'Yickadee' and left the five comparative varieties.  
(Diagram supplied by applicant.)

'Taparoo' but unlike 'Shiralee' and 'Eureka' where this character is variable. HPLC analysis of seed protein shows 'Yickadee' to be distinguishable from all comparative varieties in this characteristic. Analysis of 2 generations of seed of 'Yickadee' grown in 3 environments showed this difference to be stable.



Variety: 'Barossa' Application No. 90/026  
Accepted: 20 February, 1990  
Applicant: NSW Agriculture and Fisheries of Sydney, NSW.

Australian Agent: Ag-Seed Pty. Ltd., of Horsham, Victoria.

**Diagnosis**

This variety is distinct from all other known varieties in having the following combination of characters: a spring oilseed canola with yellow flowers and seed with 39% oil content; relatively short seed pods with a short beak length; absence of erucic acid in seeds; and a large petal length to width ratio.

**Varieties used for comparison**

'Shiralee', 'Eureka' and 'Taparoo' all being closely related to 'Barossa' and prominent commercial varieties in Australia, and 'Global' and 'Optima' being varieties used as commercial controls in variety testing in EC countries.

## Origin

'Barossa' was developed by Mr N Wratten and Mr R Mailer of the Agricultural Research Institute, NSW Agriculture and Fisheries at Wagga Wagga. 'Barossa' originated as a single plant selection, in 1985, in the F4 generation of the cross [Haya X (Zephyr X Bronowski)] X [Chisaya X Zephyr X Bronowski].

The criteria for single plant selection included lower glucosinolate content and higher field resistance for the blackleg disease *Leptosphaeria maculans*.

## Morphology — see comparison tables.

'Barossa' flowers later than 'Shiralee', 'Eureka' and 'Taparoo' but earlier than 'Global' and 'Optima'. Plants of 'Barossa' display variable anther dotting, similar to 'Shiralee' and 'Eureka' but unlike 'Taparoo', 'Global' and 'Optima' where this character is present. HPLC analysis of seed proteins shows 'Barossa' to have a composition which distinguished it from all the comparative varieties except 'Eureka'. This analysis, over 2 generations of seed grown in 3 environments, showed 'Barossa' to be stable in seed protein profile.

## Table of Comparison of Canola Varieties

(\* = varieties used for comparison)

	'Barossa'	'Yickadee'	'Shiralee'	* 'Eureka'	* 'Taparoo'	'Global'	'Optima'
<b>FLOWER PETAL SHAPE INDEX (petal length/width ratio)</b>							
mean	1.98	1.95	1.99	2.01	1.63	1.64	1.76
range	1.50-2.83	1.50-2.50	1.50-2.80	1.50-2.60	1.36-2.13	1.50-1.88	1.50-2.17
sem	0.04	0.03	0.03	0.03	0.02	0.01	0.02
lsd (1% level)			0.13				
significance (Barossa)						P 0.01	P 0.01
significance (Yickadee)					P 0.01	P 0.01	P 0.01
<b>COTYLEDON SHAPE INDEX (cotyledon width/length ratio)</b>							
mean	1.73	1.80	1.73	1.72	1.71	1.87	1.64
range	1.42-2.09	1.46-2.17	1.50-2.00	1.50-2.00	1.40-1.91	1.63-2.08	1.37-2.09
sem	0.02	0.02	0.02	0.01	0.01	0.01	0.02
lsd (1% level)			0.05				
significance (Barossa)				P 0.01		P 0.01	P 0.01
significance (Yickadee)			P 0.01	P 0.01	P 0.01	P 0.01	P 0.01
<b>PLANT HEIGHT (m)</b>							
mean	1.35 m	1.23 m	1.41 m	1.20 m	1.29 m	1.47 m	1.45 m
range	1.07-1.65	0.86-1.55	1.10-1.65	0.89-1.55	1.08-1.46	1.17-1.70	1.15-1.75
sem	0.02	0.02	0.02	0.02	0.01	0.02	0.02
lsd (1% level)			0.11				
significance (Barossa)				P 0.01		P 0.01	
significance (Yickadee)						P 0.01	P 0.01
<b>POD LENGTH (mm)</b>							
mean	44.4 mm	50.5 mm	43.4 mm	43.0 mm	50.9 mm	53.1 mm	48.1 mm
range	36.0-55.0	31.0-65.0	31.0-58.0	30.0-63.0	36.0-67.0	27.0-64.0	30.0-63.0
sem	0.5	0.8	0.7	0.7	0.9	0.9	0.9
lsd (1% level)			5.0				
significance (Barossa)					P 0.01	P 0.01	P 0.05
significance (Yickadee)			P 0.01	P 0.01			
<b>POD WIDTH (mm)</b>							
mean	4.53 mm	4.63 mm	4.54 mm	4.43 mm	5.32 mm	3.98 mm	3.97 mm
range	3.0-6.0	3.0-6.0	3.0-6.0	3.0-6.0	4.0-6.0	2.0-5.0	3.0-5.0
sem	0.08	0.08	0.09	0.09	0.07	0.10	0.09
lsd (1% level)			0.45				
significance (Barossa)					P 0.01	P 0.01	P 0.01
significance (Yickadee)					P 0.01	P 0.01	P 0.01
<b>BEAK LENGTH (mm)</b>							
mean	10.2 mm	10.5 mm	10.0 mm	9.7 mm	11.9 mm	11.6 mm	10.4 mm
range	7.0-14.0	5.0-15.0	5.0-14.0	5.0-17.0	8.0-17.0	8.0-17.0	7.0-16.0
sem	0.2	0.3	0.3	0.3	0.3	0.3	0.2
lsd (1% level)			1.1				
significance (Barossa)					P 0.01	P 0.01	
significance (Yickadee)				P 0.05	P 0.05	P 0.05	
<b>PEDICEL LENGTH (mm)</b>							
mean	23.5 mm	27.4 mm	25.1 mm	21.9 mm	21.3 mm	22.8 mm	24.0 mm
range	17.0-36.0	18.0-36.0	15.0-33.0	14.0-31.0	16.0-29.0	18.0-31.0	17.0-31.0
sem	0.4	0.5	0.4	0.5	0.4	0.4	0.5
lsd (1% level)			3.1				
significance (Barossa)					P 0.05		
significance (Yickadee)			P 0.05	P 0.01	P 0.01	P 0.01	P 0.01

---

## CROWN OF THORNS

(*Euphorbia milii* hybrid)

### Comparative Growing Trials

All characteristics below are from comparative growing trials conducted at Toolangi in Victoria from January to June 1990. Twenty struck slips of each variety were potted into 100 mm pots in a peat moss medium on 29 January 1990. The plants were given a complete liquid fertilizer and were housed in a glasshouse heated between 19-21 C, with humidity at 70-75%. Light was maintained above 2 000 lux. Measured characteristics are based on 20 random selections from these plants.



Variety: '**Stiloga**' (commercial synonym 'Gabi')  
Application No. 90/036  
Accepted: 8 March, 1990  
Applicant: **Marianne Schwab-Stirnadel** of  
Zweibrucken, West Germany.

Australian Agent: **Erich Binz of Binz Nursery**,  
Toolangi, Victoria.

### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: a dwarf bushy growth habit; glabrous dark green obovate leaves; red-purple bracts; and a continuous flowering habit.

### Varieties used for comparison

'Splendens', a commonly known variety in Australia, and 'Stigaro' and 'Stirot', both similar in bract colour to 'Stiloga' and having a continuous flowering habit.

### Origin

The breeder is Alfred Stirnadel. 'Stiloga' is a selected seedling from the open pollination of the variety 'Stiga'. This seedling was subsequently propagated asexually through more than 5 generations to form the variety 'Stiloga'. Plant Variety Rights have been granted in West Germany, Denmark, Belgium, Netherlands, Switzerland, France, Japan and the USA.

### Morphology — see comparison tables.

'Stiloga' is a bushy perennial shrub which flowers throughout the year. 'Stiloga' has glabrous obovate leaves dark green on the upper side and a lighter green below.

'Stiloga' differs from the comparative varieties 'Stirot', 'Stigaro' and 'Splendens' in having smaller leaves, shorter stems, shorter thorns, and a bract colour corresponding to RHS 58B. 'Stiloga' has a continuous flowering habit, distinguishing it from 'Splendens' which flowers only with short days.



Variety: '**Stigaro**' (commercial synonym 'Gabriela Red')  
Application No. 90/037  
Accepted: 8 March, 1990  
Applicant: **Marianne Schwab-Stirnadel** of  
Zweibrucken, West Germany.

Australian Agent: **Erich Binz of Binz Nursery**,  
Toolangi, Victoria.

### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: a dwarf bushy growth habit; large dark green obovate leaves; long thorny stems; and red bracts occurring throughout the year.

### Varieties used for comparison

'Splendens', a commonly known variety in Australia, and 'Stiloga' and 'Stirot', both similar in bract colour to 'Stigaro' and having a continuous flowering habit.

### Origin

The breeder is Marianne Schwab-Stirnadel. 'Stigaro' arose as a mutation of the variety 'Stiloga'. The mutation was subsequently propagated through 3 generations to form the variety 'Stigaro'. Plant Variety Rights have been granted in West Germany, Denmark, Netherlands, Switzerland and France.

### Morphology — see comparison tables.

'Stigaro' is a bushy perennial shrub which flowers throughout the year. 'Stigaro' has large obovate leaves, very dark green on the upper side. 'Stigaro' is distinct from 'Stiloga', 'Stirot' and 'Splendens' in having larger leaves and red bracts corresponding to RHS 52A. 'Stigaro' also differs from 'Splendens' in having shorter thorns on the stems and a continuous flowering habit, while 'Splendens' flowers only with short days.



Variety: '**Stirot**' (commercial synonym 'Rosemarie')  
Application No. 90/038  
Accepted: 8 March, 1990  
Applicant: **Marianne Schwab-Stirnadel** of  
Zweibrucken, West Germany.

Australian Agent: **Erich Binz of Binz Nursery**,  
Toolangi, Victoria.

### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: a dwarf bushy growth habit; dark green obovate leaves; stems with relatively long thorns; and red-purple bracts occurring throughout the year.

### Varieties used for comparison

'Splendens', a commonly known variety in Australia, and 'Stiloga' and 'Stigaro', both similar in bract colour to 'Stirot' and having a continuous flowering habit.

### Origin

The breeder is Marianne Schwab-Stirnadel. 'Stirot' was produced by the controlled pollination of the variety 'Stiloga' by pollen of an unknown seedling of *Euphorbia milii*. The progeny were subsequently propagated asexually through 3 generations to form the variety 'Stirot'. Plant Variety Rights have been granted in West Germany, Denmark, Netherlands, Switzerland and France.

### Morphology — see comparison tables

'Stirot' is a bushy perennial shrub which leaves throughout the year. 'Stirot' has smaller leaves than 'Stigaro' but longer than 'Stiloga'. It has longer thorns than 'Stiloga' but shorter than 'Splendens'. In this trial, 'Stirot' produced fewer flowering stems and bracts than either 'Stiloga' or 'Stigaro'. 'Stirot' also differs from 'Splendens' in having pink bracts corresponding to RHS 61C and in having a continuous flowering habit, where 'Splendens' requires short days to flower.



Comparison of *Euphorbia* varieties (clockwise from top left) 'Splendens', 'Stigaro', 'Stirot' and 'Stiloga'. (Photograph supplied by applicant.)

## Table of Comparison of *Euphorbia* Varieties

(\* = variety used for comparison)

	'Stiloga'	'Stirot'	'Stigaro'	*'Splendens'
<b>NUMBER OF FLOWERING STEMS</b>				
mean	4.5	1.8	4.7	0.4
range	2-7	0-4	1-9	0-3
standard deviation	1.2	1.2	1.8	0.9
<b>NUMBER OF PAIRS OF BRACTS</b>				
mean	4.8	4.8	5.8	0.8
range	6-24	0-13	1-26	0-6
standard deviation	4.8	2.8	5.8	1.8
<b>BRACT COLOUR RHS</b>				
	58B	61C	52A	155A
<b>LEAF LENGTH</b>				
mean	79.2 mm	102.7 mm	118.1 mm	98.7 mm
range	70-92	80-123	102-144	75-116
standard deviation	5.8	10.8	10.5	11.5
<b>LEAF WIDTH</b>				
mean	34.7 mm	41.1 mm	43.8 mm	36.1 mm
range	29-41	34-48	35-52	25-47
standard deviation	3.4	3.7	4.1	5
<b>STEM HEIGHT</b>				
mean	4.2 cm	4.9 cm	6.4 cm	5.7 cm
range	3.5-5.5	4-7	5-7.5	4-7.5
standard deviation	0.5	0.8	0.7	0.9
<b>THORN LENGTH</b>				
mean	6.4 mm	8.4 mm	7.0 mm	11.2 mm
range	4-9	5-11	5-10	9-15
standard deviation	1.2	1.5	1.4	1.6

## CARNATION (*Dianthus caryophyllus*)

### Comparative Growing Trials

All comparisons and described characteristics are from 5 plants of each variety, all of the same age and condition, grown in glasshouse conditions in Sofia, Bulgaria. Measured characteristics are based on 20 measurements from each variety. Further comparative growing trials are in progress in Australia.



Variety: 'Srebrina' Application No. 90/051

Accepted: 1 May, 1990

Applicant: Bioprogress, SP "Selca", of Plovdiv, Bulgaria.

Australian Agent: James Healey, Royena Nurseries (Aust.) Pty Ltd, Dingley, Victoria.

### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: a medium large diameter double flower; purple petals with darker purple spots; petal margins with large, even serrations; and a medium long stem.

### Varieties used for comparison

'Vanya' and 'Safari', having similar flower colour and shape.

### Origin

This variety, bred by Dr. A. Boikov of Sofia, Bulgaria, arises from controlled pollination of Bulgarian *Dianthus caryophyllus* seedling lines followed by selection of progeny on the basis of flower, petal and calyx characteristics.

### Morphology — see comparison tables.

'Srebrina' has a flat convex upper corolla (in profile) and a concave lower corolla (in profile); a thick central cluster of petals; 5 calyx lobes, which are convex along the longitudinal axis; an obovoid shaped ovary (in profile); no style shoulder or pigments; a weak perfume.

'Srebrina' has longer leaves, which have more waxiness, than 'Vanya' and 'Safari'. Calyx splitting does not occur in 'Srebrina', whereas there is some evident in 'Vanya' and 'Safari'. 'Srebrina' has a longer, thinner stem than 'Vanya' and 'Safari'. 'Srebrina' can have 2 or 3 epicalyx lobes, whereas 'Vanya' and 'Safari' have only 2. The bud shape of 'Srebrina' is obovoid, while those of 'Vanya' and 'Safari' are ellipsoid. 'Srebrina' has a longer style than 'Vanya' and 'Safari'. 'Srebrina' petals bear small spots corresponding to RHS colour 57B. The

evenly serrated petal margins of 'Srebrina' differ from the crenate dentate margins of 'Vanya' and the crenate margins of 'Safari'. 'Srebrina' petal colour is similar to 'Safari' but 'Srebrina' has no petal border as does 'Safari'. 'Srebrina' has flowers which are larger in diameter than 'Vanya' and 'Safari', and has larger but fewer petals than 'Vanya' and 'Safari'.



Variety: 'Cana' Application No. 90/053

Accepted: 1 May, 1990

Applicant: Bioprogress, SP "Selca", of Plovdiv, Bulgaria.

Australian Agent: James Healey, Royena Nurseries (Aust.) Pty Ltd, Dingley, Victoria.

#### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: a large diameter double flower with many petals; light pink petals which fade to white at the petal borders; petal margins with large, even serrations; and a long, thick stem.

#### Varieties used for comparison

'White Sim' and 'Lena Super', being similar in flower shape and colour.

#### Origin

This variety, bred by Dr. A. Boikov of Sofia, Bulgaria, arises from controlled pollination of Bulgarian *Dianthus caryophyllus* seedling lines followed by selection of progeny on the basis of flower, petal and calyx characteristics. Plant Variety Rights have been applied for in Holland, in November 1988.

#### Morphology — see comparison tables.

'Cana' has a flat convex upper corolla (in profile) and a concave lower corolla (in profile); a thick central cluster of petals; 5 calyx lobes; 2 epicalyx lobes; an obovoid shaped ovary (in profile); and no style shoulder or pigments.

'Cana' has a medium fragrance in contrast to the very weak fragrance of 'White Sim' and 'Lena Super'. The calyx lobe of 'Cana' is convex in longitudinal axis while those of 'White Sim' and 'Lena Super' are concave in shape. 'Cana' calyx lobes exhibit no splitting while 'White Sim' and 'Lena Super' have 25% and 28% calyx splitting respectively. 'Cana' has a cylindrical shaped bud while 'White Sim' and 'Super Lena' both have an ellipsoid shaped bud. 'Cana' stems are longer and thicker than those of 'White Sim' and 'Lena Super'. 'Cana' leaves are longer and wider, with a slightly waxier coating, than those of 'White Sim' and 'Lena Super'. 'Cana' takes longer to flower and has larger flowers with wider and more numerous petals than 'White Sim' and 'Lena Super'. 'Cana' petals have serrate margins whereas 'White Sim' and 'Lena Super' have crenate dentate petal margins. 'Cana' has a longer style than 'White Sim' and 'Lena Super'. In contrast to the uniformly white petals of 'White Sim' and the uniformly pink petals of 'Lena Super', 'Cana' petals are mainly pink, fading to white on the petal border.



Flower of 'Srebrina'. (Photograph supplied by applicant.)



Flower of 'Cana'. (Photograph supplied by applicant.)



## Table of Comparison of Carnation Varieties

(\* = varieties used for comparison)

	'Srebrina'	*'Vanya'	*'Safari'	'Cana'	*'White Sim'	*'Lena Super'
<b>FLOWER COLOUR</b>						
main colour	purple	purple	purple	white to pink	white	pink
outer petal RHS	68B	73A	68A	55B	155B	49A
border/edge RHS	no border	no border	68C	155C	no border	no border
border width			6 mm	15 mm		
inner petal RHS	68C	73B	68A	55C	155B	49B
border/edge RHS	no border	no border	68D	155C	no border	no border
border width			3 mm	7 mm		
<b>FLOWER SIZE</b>						
mean	7.8 cm	7.4 cm	7.6 cm	9.2 cm	7.6 cm	7.8 cm
range	7.2-8.1	7.0-7.8	7.2-7.9	8.7-9.4	7.4-7.8	7.6-8.1
standard deviation	0.24	0.21	0.19	0.18	0.10	0.13
<b>OUTER PETAL WIDTH</b>						
mean	3.4 cm	3.0 cm	3.1 cm	3.8 cm	3.1 cm	3.2 cm
range	3.2-3.9	2.5-3.3	2.7-3.4	3.6-4.3	2.7-3.4	2.9-3.5
standard deviation	0.19	0.21	0.19	0.18	0.19	0.16
<b>TOTAL PETAL COUNT</b>						
mean	51	58	67	89	56	61
range	49-56	51-64	59-73	85-93	53-58	56-66
standard deviation	1.88	3.48	3.75	2.14	1.34	2.68
<b>CENTRAL CLUSTER PETAL COUNT</b>						
mean	39	41	48	75	35	38
range	38-44	37-44	43-52	70-79	31-37	36-41
standard deviation	1.60	1.88	2.41	2.41	1.60	1.34
<b>STEM LENGTH</b>						
mean	58 cm	51 cm	53 cm	78 cm	65 cm	68 cm
range	55-62	48-54	49-56	72-86	61-69	63-72
standard deviation	1.88	1.61	1.87	3.75	2.14	2.41
<b>STEM THICKNESS</b>						
mean	4.5 mm	5.0 mm	5.0 mm	5.0 mm	4.0 mm	4.5 mm
range	4.0-5.0	4.0-5.5	4.0-6.0	4.0-6.0	3.0-5.0	3.0-6.0
standard deviation	0.27	0.40	0.54	0.54	0.54	0.80
<b>CALYX SPLITTING (% of sample)</b>						
	0	3	12	0	25	28
<b>CALYX HEIGHT</b>						
mean	3.4 cm	2.7 cm	3.3 cm	3.8 cm	3.2 cm	3.3 cm
range	3.3-3.6	2.6-2.8	3.1-3.5	3.7-4.1	3.0-3.4	3.1-3.4
standard deviation	0.08	0.05	0.11	0.11	0.47	0.08
<b>CALYX DIAMETER</b>						
mean	2.1 cm	2.0 cm	2.3 cm	2.5 cm	2.2 cm	2.3 cm
range	1.9-2.3	1.9-2.2	2.0-2.4	2.4-2.6	2.0-2.4	2.2-2.4
standard deviation	0.10	0.08	0.10	0.05	0.11	0.05
<b>MEAN DAYS TO FLOWERING</b>						
	105	102	110	127	105	109
<b>LEAF LENGTH</b>						
mean	13 cm	10 cm	11 cm	12 cm	9 cm	10 cm
range	10-15	7-11	8-13	10-13	7-11	7-12
standard deviation	1.34	1.07	1.34	0.80	1.07	1.34
<b>LEAF WIDTH</b>						
mean	10 mm	9 mm	10 mm	11 mm	10 mm	9.5 mm
range	9-13	8-11	7-13	10-13	9-11	8-11
standard deviation	1.07	0.80	1.60	0.80	0.54	0.80
<b>LEAF WAXINESS (scale 1-9)</b>						
	8.5	7	8	8	7	7

## WARATAH (*Telopea speciosissima*)

### Comparative Growing Trials

All characteristics and comparisons below are from comparative growing trials conducted at the Agronomy Unit, University of Sydney, Camden, NSW from 1981 to 1987/88. Plants were grown in the field and maintained under trickle irrigation.

Variety: 'Sunburst' Application No. 90/062  
Accepted: 15 June, 1990  
Applicant: **University of Sydney**, Sydney, NSW.



### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: plant is erect, non-lignotuberous, mid season flowering, with moderately dense foliage; leaf margins are serrulate; flowers are small; floral bracts are wide, triangular with pointed tips, red; perianths are red; involucre is semi-globose.

### Varieties used for comparison

'Fire & Brimstone' and 'Wirrimbirra White', the closest known varieties in flower characteristics available in Australia.

### Origin

'Sunburst' arose from a single open pollinated seedling selected in 1987 from a breeding program conducted by C A Offord, P Nixon and P B Goodwin of the Department of Horticulture, University of Sydney.

### Morphology — see comparison tables.

Plants are perennial, growing to four metres with glabrous, grey-green to yellow-green stems. Leaves of 'Sunburst' are dark green, long spatulate, petiolate, apex rounded, base tapering, alternate with serrulate margins, glabrous and moderately waxy. Perianth, styles and bracts are red (RHS 46C) with bracts prominent, cup-shaped around the main inflorescence and have a slight yellow-green tinge on the tips.



Inflorescence of 'Sunburst'. (Photograph supplied by applicant.)

Flower colour of 'Sunburst' is darker than the colour of 'Fire & Brimstone' in bract, perianth and style. Leaves of 'Sunburst' are lighter in colour, narrower and not lobed as sometimes occurs with 'Fire & Brimstone'. 'Sunburst' has flowers about half the weight of 'Fire & Brimstone' and the red colour of 'Sunburst' sets it well apart from 'Wirrimbirra White' which has pale yellow flowers. Bracts of 'Sunburst' are longer than 'Fire & Brimstone' but about equal to 'Wirrimbirra White'.



Variety: 'Sunflare' Application No. 90/063  
Accepted: 15 June, 1990  
Applicant: **University of Sydney**, Sydney, NSW.

### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: plant is erect, non-lignotuberous, early flowering, with moderately dense foliage; leaves are serrate and lobed; flowers are medium sized; floral bracts are short; perianths are red.

### Varieties used for comparison

'Fire & Brimstone' and 'Wirrimbirra White', the closest known varieties in flower characteristics available in Australia.

### Origin

'Sunflare' arose from a single open pollinated seedling selected in 1981 from a breeding program conducted by C A Offord, P Nixon and P B Goodwin of the Department of Horticulture, University of Sydney.

### Morphology — see comparison tables.

Plants are perennial, growing to four metres with glabrous, grey-green to yellow-green stems. Leaves of 'Sunflare' are green, elongate, spatulate, alternate with bi-serrate margins, apex rounded, base tapering to a long petiole, dark green, glabrous, moderately waxy tending lobed. Perianth, styles and bracts are currant red with bracts prominent, loose and cup-shaped around the main inflorescence, and have a slight yellow-green tinge on the moderately reflexed tips.



Inflorescence of 'Sunflare'. (Photograph supplied by applicant.)

Flowers of 'Sunflare' are significantly smaller than either 'Fire & Brimstone' or 'Wirrimbirra White'. 'Sunflare' has short bracts half the length of the both 'Fire & Brimstone' and 'Wirrimbirra White'. Leaves

of 'Sunflare' can be distinguished from 'Fire & Brimstone' and 'Wirrimbirra White' by the lobed and bi-serrate margins and darker colour.



Inflorescence of 'Fire & Brimstone'. (Photograph supplied by applicant.)



Inflorescence of 'Wirrimbirra White'. (Photograph supplied by applicant.)

### Table of Comparison of Waratah Varieties

(\* = varieties used for comparison)

	'Sunflare'	'Sunburst'	**'Fire & B'	**'Wirrimbirra'
<b>FLOWER DIAMETER (outside bracts)</b>				
mean	120mm	146mm	150mm	180mm
range	110 – 130	130 – 175	130 – 170	170 – 190
std deviation	8	17	14	60
<b>FLOWER DIAMETER (without bracts)</b>				
mean	85mm	92mm	108mm	95mm
range	70 – 90	80 – 110	90 – 130	91 – 96
std deviation	9	10	14	2
<b>BRACT LENGTH</b>				
mean	50mm	114mm	97mm	110mm
range	30 – 80	105 – 125	90 – 110	95 – 120
std deviation	15	9	9	10
<b>PERIANTH COLOUR</b>	50B-47B	46C	50A	4D
<b>STYLE COLOUR</b>	50C-36B	46C	50B	4D
<b>BRACT COLOUR</b>	50A-47B	46C	50A	4D-154C
<b>BRACT POSITION</b>	medium	medium	tight	medium
<b>INFLORESCENCE FRESH WEIGHT (with 10cm of stem and 5 leaves)</b>				
mean	81g	57g	107g	71g
range	53 – 131	32 – 90	81 – 149	32 – 120
std deviation	33	20	25	33
<b>LEAF MARGIN</b>	bi-serrate	serrulate	serrulate	serrulate
<b>LEAF COLOUR</b>	146A	137A	137A	146B
<b>FLOWERING DATES (September-October, southern hemisphere)</b>	16/9-28/9	24/9-1/10	25/9-14/10	12/9-30/9
<b>VASE LIFE (days)</b>				
mean	14	14	17	8
std deviation	1.2	2.1	4.1	0.8

## LUCERNE (*Medicago sativa* L.)



Variety: 'Quadrella' Application No. 90/055  
Accepted: 15 May, 1990  
Applicant: CSIRO Division of Tropical Crops and Pastures, and University of Queensland, St. Lucia, Queensland.

### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: a high resistance to *Stemphylium vesicarium*; a high resistance to *Colletotrichum*; a moderate resistance to *Phytophthora*; and a medium to erect growth habit.

### Varieties used for comparison

'Trifecta', being the parent and closest known variety; 'Hunter River' and 'Sequel' being standard varieties.

### Comparative Growing Trials

Disease resistance was assessed in various glasshouse trials at the University of Queensland and CSIRO in Brisbane from 1987 to 1989, using seedlings grown in a glasshouse in a medium of peat and sand. *Stemphylium* resistance was assayed using the method described in: Bray, R.A., and Irwin, J.A.G., Recurrent selection for resistance to *Stemphylium vesicarium* within the lucerne cultivars Trifecta and Sequel. *Australian Journal of Experimental Agriculture* 29, 1989, pp.189-192.

Morphological and yield data were obtained in field trials at Lawes 1988 and 1989. Morphological data were obtained from approximately 180 spaced plants and yield data from a trial of direct-seeded rows.

### Origin

This variety arose from two generations of selection from 'Trifecta' of plants resistant to isolates 162 and 302 of *Stemphylium vesicarium*. It was bred by Dr R A Bray, CSIRO, and Dr J A G Irwin, University of Queensland, in Brisbane, between 1985 and 1987.

100 resistant seedlings were selected from an initial 1000, and were intercrossed. Half-sib maternal progenies were screened for resistance and a single resistant plant was selected from each maternal line and intercrossed. The resulting progenies were screened and 52 seedlings (each from a different half-sib family), with the highest levels of resistance, were selected for multiplication to form 'Quadrella'.

### Morphology — see comparison tables.

Morphological characters of 'Quadrella' such as stem length, time to flower and yield are not different from 'Trifecta'. 'Quadrella' can be distinguished from all other varieties by its resistance to *Stemphylium vesicarium*. As well as being resistant to isolates 162 and 302 used during the selection process, 'Quadrella' has a high degree of resistance to the highly virulent new isolate UQ 129. 'Quadrella' can be distinguished from 'Trifecta' in having a slightly less erect growth habit and a slightly lower resistance to *Phytophthora*.

### Agronomy

'Quadrella' is suited to most areas of eastern Australia but is not recommended in localised areas where the severity of *Phytophthora* is extreme.

### Table of Comparison of Lucerne Varieties

(\* = varieties used for comparison)

	'Quadrella'	*'Trifecta'	'Hunter River'	'Sequel'
<i>Stemphylium</i> RESISTANCE (score 1-9)				
Isolate UQ 129	1.54	3.57	(3.5) <sup>1</sup>	4.14
Isolates 162 +302	1.30	4.39	(4.3) <sup>1</sup>	5.31
GROWTH HABIT (1 = prostrate, 5 = erect)				
	3.23	3.50	3.13	3.67
<i>Colletotrichum</i> RESISTANCE (score 1-5)				
	2.87	2.91	4.69	2.60
<i>Phytophthora</i> RESISTANCE (score 1-5)				
	2.68	2.36	3.92	1.59

<sup>1</sup> 'Hunter River' was not included in the resistance trial but is known to be of similar susceptibility to 'Trifecta'.



Comparison between 'Trifecta' (top) and 'Quadrella' (bottom) inoculated with *Stemphylium* leaf spot isolate UQ 129. (Photograph supplied by applicant.)

## SULLA (*Hedysarum coronarium* L.)



Variety: 'Necton' Application No. 90/064  
Accepted: 15 June, 1990  
Applicant: New Zealand Agriseeds Limited of  
Christchurch, New Zealand.

Australian Agent: Primac Association Limited, of  
Brisbane, Queensland.

### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: early-medium flowering; semi-erect to erect growth habit; greater plant width; many flowering stems; long leaflets; and brown hulled seeds.

### Comparative Growing Trials

All characteristics and comparisons below are from comparative growing trials conducted at Courtenay (near Christchurch) in the Canterbury-district in the South Island of New Zealand.

One hundred spaced plots of 'Necton' and 'Aokau' were seeded in February 1986. Four hulled, inoculated, pre-scarified seeds were sown per plot. These plots were thinned to one spaced plant in April. Measured characteristics are based on 88 measurements for 'Necton' and 58 for 'Aokau'.

### Varieties used for comparison

'Aokau', the only other sulla variety of common knowledge.

### Origin

'Necton' arises from the open crossing of fifteen selected lines and is sustained through generations by the open crossing of the progeny. The work was part of a breeding program conducted by Yates Research at its Plant Breeding Station at Courtenay, New Zealand in 1986.

The main selection criteria were growth habit, number of flowering stems, vegetative yield, days to flower opening and stem length and thickness.

### Morphology — see comparison tables.

'Necton' is a medium green sulla, similar in height to 'Aokau' at flowering. The central leaflet of 'Necton' is rounded at the tip and is the same width as 'Aokau'. Neither variety has leaf markings and both produce pods of a similar length with a pointed apex.

'Necton' is distinct from 'Aokau' by flowering 15 days earlier. Stems of 'Necton' are thicker and have greater hair density than stems of 'Aokau'. 'Necton' has a larger central leaflet length, more leaflet pairs and a greater number of flowering stems than 'Aokau'. Plants of 'Necton' are wider than those of 'Aokau'. Hulled seeds of 'Necton' are brown while seeds of 'Aokau' are creamy white.

## Table of Comparison of Sulla Varieties

(\* = variety used for comparison)

	'Necton'	'Aokau'
MATURITY — days from October 1 to 50 % flowering		
mean	41	55
range	32-80	32-112
standard deviation	12.4	20.1
LEAFLET LENGTH		
mean	27.0 mm	24.0 mm
range	15-45	15-40
standard deviation	5.40	7.04
NUMBER OF LEAFLET PAIRS		
mean	3.9	3.2
range	2.4-6.0	1.2-4.2
standard deviation	0.96	1.18
PLANT WIDTH		
mean	121.4 cm	99.1 cm
range	60-240	50-175
standard deviation	37.2	32.7
NUMBER OF FLOWERING STEMS		
mean	9.4	6.8
range	5.0-20.0	2.0-12.0
standard deviation	4.5	2.7
SEED COLOUR (hulled)	brown	creamy white



'Necton' sulla vegetative growth and inflorescence. (Photograph supplied by applicant.)

## AZALEA

(*Rhododendron obtusum* hybrid)



Variety: 'Coconut Ice' Application No. 90/070  
Accepted: 22 June, 1990  
Applicant: R J Cherry, of Paradise Plants, Kulnura, NSW.

### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: a large open funnel shape, hose-in-hose type, predominantly pink flower; dark pink stamen filaments; a light green mature leaf colour.

### Varieties used for comparison

'Silver Anniversary' being the closest known variety for colour and form.

### Comparative Growing Trials

All characteristics described below are from comparative growing trials conducted at Kulnura, central coast, NSW, 1989-90. Plants were propagated in January 1988 and grown in pots under 50% shade and pinched twice according to the UPOV guidelines. Measurements are from 20 specimens selected at random from 100 plants of each variety.

### Origin

This variety arises from the controlled pollination of unnamed seedlings in 1969. Selection was finalised in 1972 and based mainly on flowering characteristics. Subsequent propagation has been by stem cutting. The breeder is RJ Cherry of Paradise Plants Nursery, Kulnura, NSW. 'Coconut Ice' was registered with the Royal Horticultural Society on 14 May 1987 as 'Paradise Coconut Ice'.

### Morphology — see comparison tables.

'Coconut Ice' is a bushy shrub growing taller than 150cm and with a spreading habit. Petals have broad apices and undulating crenulate margins. Incisions in the corolla are shallow. The pink petals (RHS 68C) have a white throat blotch (RHS 155C) extending 2/3 up the standard and 1/5 up all the other petals. Outer petal margins are white (RHS 155C) extending up to 1/4 of the petal but occasionally absent. Hose-in-hose type flowers have petaloid sepals giving two whorls of petals. Measurements and descriptions are based on the inner true petals but colour is the same for the outer petals. Stamens number 6-8, are infrequently petaloid, dark pink at RHS 63C, and in unopened flowers, they are RHS 68B. There are 3-5 florets per truss, the greater number occurring terminally later in the season which may extend from March to September. This is earlier than 'Silver Anniversary'. Leaves of 'Coconut Ice' are lighter colour, obovate rather than elliptic, but significantly shorter than leaves of 'Silver Anniversary'. Flower diameter of 'Coconut Ice' is also significantly larger than 'Silver Anniversary'.

## Table of Comparison of Azalea Varieties

(\* = variety used for comparison)

	'Coconut Ice'	'Silver Anniversary'
PETAL COLOUR RHS	68C	62B+ 65C
STAMEN COLOUR RHS	63C	63D
OUTER PETAL COLOUR (pre-opening) RHS	68B	73B
FLOWER DIAMETER		
mean	76.8mm	62.2mm
range	64 — 92	55 — 70
std deviation	7.88	4.32
LEAF LENGTH		
mean	40.7mm	51.6mm
range	30 — 55	40 — 62
std deviation	5.81	4.71
LEAF SHAPE	obovate	elliptic
LEAF COLOUR RHS	143A	137A
LEAF WIDTH		
mean	25.4mm	23.0mm
range	15 — 28	15 — 30
std deviation	3.18	3.43
PETIOLE LENGTH		
mean	6.6mm	6.4mm
range	4 — 11	4 — 9
std deviation	1.63	1.13
FLOWERING SEASON		
advanced plants	Mar — Sept	May — Oct
new stock	Jun — Sept	Aug — Oct



'Silver Anniversary' (left) and 'Coconut Ice' (right). (Photograph supplied by applicant.)

## CUPHEA (*Cuphea hyssopifolia*)



Variety: '**Golden Ruby**' (commercial synonym 'Cocktail')

Application No. 90/071

Accepted: 26 June, 1990

Applicant: **Ronald Grahame**, of Palmerston North, New Zealand.

Australian Agent: **Malcolm Morgan**, of Macquarie Fields, New South Wales.

### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: a variegated leaf; a red purple flower; a dwarf growth habit; and a pubescent stem pigmented with anthocyanin.

### Varieties used for comparison

*C. hyssopifolia* being the parent and 'Alba' being a standard variety.

### Comparative Growing Trials

All characteristics described below are from comparative growing trials conducted at Silvan, Victoria, from March to June, 1990. The plants were propagated in February 1990 in a medium of bark and sand in 100 mm pots in an unheated plastic greenhouse. Measurements were made on 9 June 1990 from 20 plant parts selected systematically from 12 plants.

### Origin

This variety arose from a mutated branchlet of *C. hyssopifolia*. It was bred by Ronald Graham, of Palmerston North, New Zealand in July 1986. 'Golden Ruby' was selected on the basis of its variegated leaves and the variegation remained stable through 6 generations of asexual reproduction by cuttings. 'Golden Ruby' has been protected by Plant Variety Rights in New Zealand since July 1988.

### Morphology — see comparison tables.

'Golden Ruby' is a dwarf, compact, heavily branched shrub. 'Golden Ruby' leaves are variegated, glabrous, narrow elliptic, entire, and are arranged in opposite pairs along the stem. The young branches of 'Golden Ruby' are pubescent with anthocyanin colouration and with branchlets arising at almost

every node. The flower of 'Golden Ruby' is bell shaped and has a fused green calyx topped by a corolla consisting of six petals, radiate at the apex, with a red purple colour corresponding to RHS 71A. The flower colour of 'Golden Ruby' is the same as *C. hyssopifolia*. 'Golden Ruby' has a flower width, flower length and pedicel length which are the same as *C. hyssopifolia* and 'Alba'. 'Golden Ruby' and *C. hyssopifolia* have anthocyanin colouration on the young branches, whereas 'Alba' has none. 'Golden Ruby' has longer and wider leaves than 'Alba'. 'Golden Ruby' plants are shorter than *C. hyssopifolia* and taller than 'Alba'. 'Golden Ruby' can most readily be distinguished from *C. hyssopifolia* by its variegated leaves. 'Golden Ruby' is distinguishable from 'Alba' by its variegated leaves and because it has red purple flowers in contrast to the white flowers of 'Alba'.

### Table of Comparison of *Cuphea* Varieties

(\* = varieties used for comparison)

	'Golden Ruby'	* <i>C. hyssopifolia</i>	*'Alba'
MATURE LEAF COLOUR AT MARGINS			
RHS	145A	147A	139A
MATURE LEAF COLOUR AT CENTRE			
RHS	147B	147A	139A
PLANT HEIGHT			
mean	154.6 mm	168.3 mm	139.2 mm
range	135-175	145-185	130-150
std deviation	13.7	13.7	6.3
LEAF LENGTH			
mean	29.9 mm	30.9 mm	27.8 mm
range	26-36	29-33	25-32
std deviation	2.28	1.18	1.61
LEAF WIDTH			
mean	8.5 mm	8.2 mm	7.9 mm
range	7-10	7-9	7-9
std deviation	0.76	0.67	0.76
NUMBER OF BRANCHES			
mean	22.1	18.8	24.6
range	12-31	15-24	14-29
std deviation	5.12	2.93	4.93
FLOWER COLOUR			
group	red purple	red purple	white
RHS	71A	71A	155D



'Golden Ruby' on right with *Cuphea hyssopifolia* on left. (Photograph supplied by applicant.)

## RED CLOVER (*Trifolium pratense* L.)



Variety: 'Grasslands Colenso' Application No. 90/077. Accepted: 19 July 1990.

Applicant: Grasslands Division, DSIR, of Palmerston North, New Zealand, on behalf of Her Majesty The Queen in Right of New Zealand.

Australian Agent: Valley Seeds Pty Ltd, of Alexandra, Victoria.

### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: early maturity in the field; more stems at maturity; short terminal leaflets; a small proportion of plants with white flowers; one-fifth of plants with no leaf markings; and a unique protein banding pattern.

### Varieties used for comparison

'Grasslands Hamua' being the closest known variety and a parent of 'Grasslands Colenso', and 'Redquin' and 'Redwest', Australian red clover varieties.

### Comparative Growing Trials

All characteristics described below are from glasshouse comparative growing trials conducted at DSIR Grasslands research centre at Palmerston North, New Zealand in 1989/90. Plants were

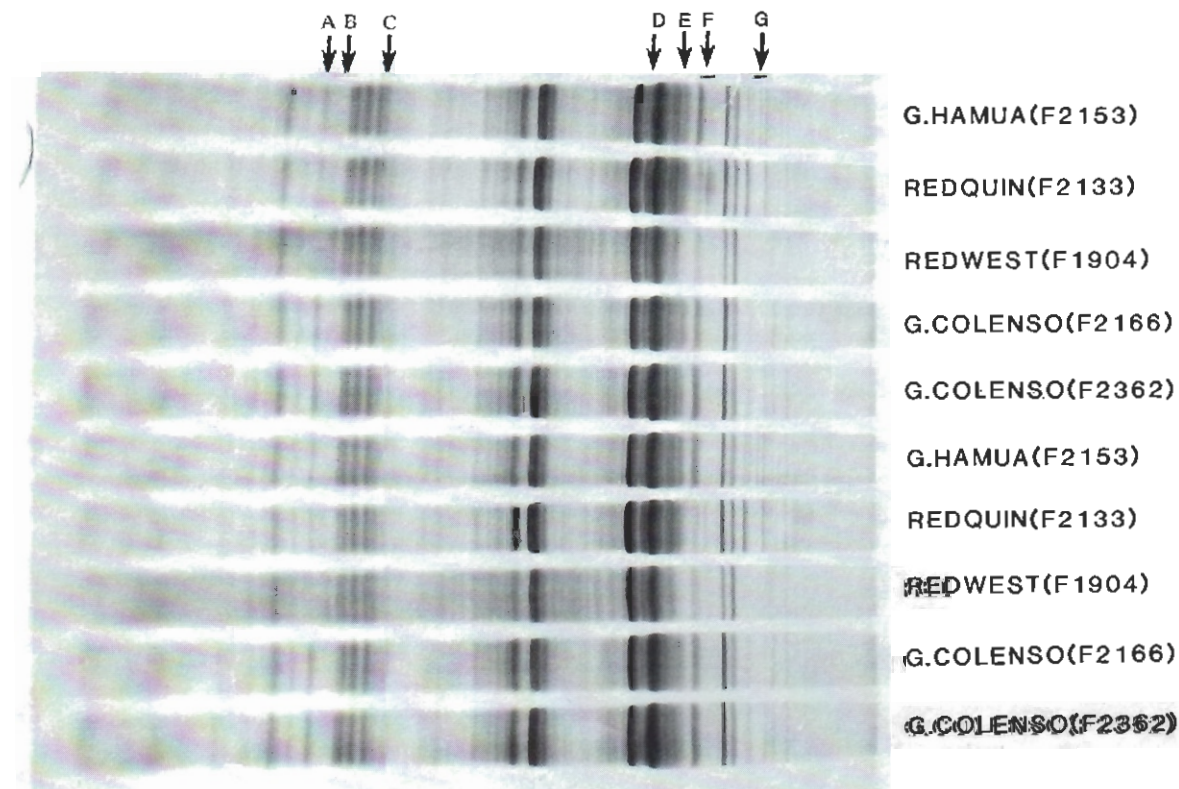
individually potted into 15 cm plastic planter bags filled with potting mix. 50 plants of each variety were placed in 10 replicates of 5 plants. Temperatures were maintained within a diurnal range of 16-24 C with natural light conditions. Measurements were recorded from all plants.

Field trials were also conducted during 1987-1989 at DSIR Grasslands research centre. The plants were spaced at 60 cm in a complete randomized block design in 5 replicates of 20 plants of each variety. Maturity data is presented from this trial.

As evidence of distinctness and stability, the applicant has submitted protein banding patterns using SDS PAGE of two generations of 'Grasslands Colenso' seed (SE Gardiner and MB Forde: *Seed Science and Technology*, 1987, Vol 15 pp 663-674. The extraction medium was modified as described by DB Smith and PI Payne: *Journal of the National Inst. Ag. Bot.*, 1984 Vol 16, pp 487-498).

### Origin

The breeder is Mr Lionel Anderson (retired) of DSIR Grasslands, Palmerston North, New Zealand. 'Grasslands Colenso' originated from pair crosses between 'Grasslands Hamua' and introduced Moroccan material during 1961/62. Further back crossing and selection took place until a final selection was made during 1976 based on cool season-extended season growth attributes. Plant Variety Rights have been granted in New Zealand and applied for in the United Kingdom.



SDS-PAGE electrophoresis of seed protein of red clover varieties. 'Grasslands Colenso' differs from 'Grasslands Hamua' at C, E and G; 'Redquin' at A, D, E, F and G; and 'Redwest' at A, B, C and E. (Photograph supplied by applicant.)



**Morphology** — see comparison tables. 'Grasslands Colenso' is a semi-erect clover with a high plant growth density. Field trials in New Zealand have shown 'Grasslands Colenso' to be an early maturing variety compared to 'Grasslands Hamua' (approx 8-10 days earlier). This characteristic was reversed under glasshouse conditions.

'Redquin' and 'Redwest'. Stems of 'Grasslands Colenso' are generally thinner than the comparative varieties. 'Grasslands Colenso' has 4-5% white, or almost white, flowers in addition to the pale pink/purple flowers found in 'Grasslands Hamua'. The terminal leaflet of 'Grasslands Colenso' is shorter in length but of similar width to that of 'Grasslands Hamua', 'Redquin' and 'Redwest'.

'Grasslands Colenso' has a higher percentage of leaves without marks, than 'Grasslands Hamua',

### Table of Comparison of Red Clover Varieties

(\* = varieties used for comparison)

	'Grasslands Colenso'	*'Grasslands Hamua'	*'Redquin'	*'Redwest'
TIME TO FLOWERING (days from sowing until 50% plants have 3 florets)				
field trial	55.1	64.8	—	—
glasshouse trial	106	52	66	41
STEM LENGTH				
mean	912.4 mm	790.9 mm	1069.8 mm	834.5 mm
range	415-1283	457-1217	579-1712	466-1406
standard deviation	202.5	189.3	264.2	234.9
STEM THICKNESS				
mean	3.2 mm	4.5 mm	4.9 mm	4.1 mm
range	1-7	2.5-7	2.7-7	2.5-7
standard deviation	1.8	1.1	1.1	0.9
LEAFLET LENGTH				
mean	34.0 mm	37.3 mm	39.7 mm	40.8 mm
range	25-48	18-55	22-64	26-56
standard deviation	5.6	8.6	8.9	6.8
LEAFLET LENGTH/WIDTH RATIO				
	2.1	2.37	2.41	2.41
LEAF MARK INTENSITY (ranking 1-5)				
mean	2	3	4	4
PERCENTAGE OF LEAVES WITH NO MARKS				
	20%	11%	6%	0%
STEM NODE NUMBER				
mean	17.7	14.2	14.5	11.9
range	9-27	8-23	7-26	8-18
standard deviation	4.0	4.1	13.5	3.1
FLORET LENGTH				
mean	17.4 mm	15.9 mm	16.9 mm	16.2 mm
range	14-19.5	8.2-22	12.5-23	12-21
standard deviation	1.3	2.1	1.7	1.7

### STYLO (*Stylosanthes hamata*)



Variety: 'Amiga' Application No. 90/078

Accepted: 31 July 1990.

Applicant: CSIRO Division of Tropical Crops and Pastures, of St Lucia, and Queensland Department of Primary Industries of Brisbane, Queensland.

#### Diagnosis

This variety is distinct from all other known varieties in having the following combination of characters: apices of unifoliate floral bracts and leaflets acuminate; a greater percentage of double articulated laments.

#### Varieties used for comparison

'Verano' being the only other variety available in Australia.

### Comparative Growing Trials

All characteristics described below are from comparative growing trials conducted at Woodstock, north eastern Queensland in 1990. This trial consisted of 2 generations of 40 spaced plants in unreplicated blocks. Measurements are from 40 specimens selected at random from one of those blocks.

In addition, the applicant has prepared electron micrographs of the inflorescences of 'Amiga' and 'Verano'. Fresh specimens were treated with 2.5% glutaraldehyde in cacodylate buffer for 1 hour and then cacodylate buffer alone for one hour. The specimens were then dehydrated in a graded series of ethanol, dried and coated in gold. Examination was in secondary electron mode at 10 kV.

### Origin

This variety is a natural allotetraploid between the diploids *S. hamata* and *S. humilis*. It was initially selected in 1983 for seed yield, dry matter yield and resistance to anthracnose disease.

### Morphology — see comparison tables.

'Amiga' is a semi-erect, herbaceous, biennial pasture legume. The stems have short white hairs down one side. Leaves are trifoliolate, leaflets lanceolate, acuminate, glabrous with 4-6 pairs of veins and a length/breadth ratio of 4.17, petiole 5-6mm and bidentate stipules adnate to the base of the petiole with hairs on the sheath and teeth. The inflorescence is an oblong spike 15-25mm long with 8-14 flowers on a long rachis; the outer bracts of 'Amiga' are broad and taper to an acuminate apex. These are distinct from 'Verano' which has lower angled acute apices. (See electron-micrograph.) The loment consists of two articulations, lower pilose and upper glabrous, which are usually both fertile on 'Amiga' but less so on 'Verano'. The beak is slightly coiled, equal to or shorter than the upper articulation but with a total length of upper pod and beak of 6-

7mm. The seeds are brown to black, asymmetrically reniform with radical ends fairly prominent. Seeds weight is 1.901g/1000.

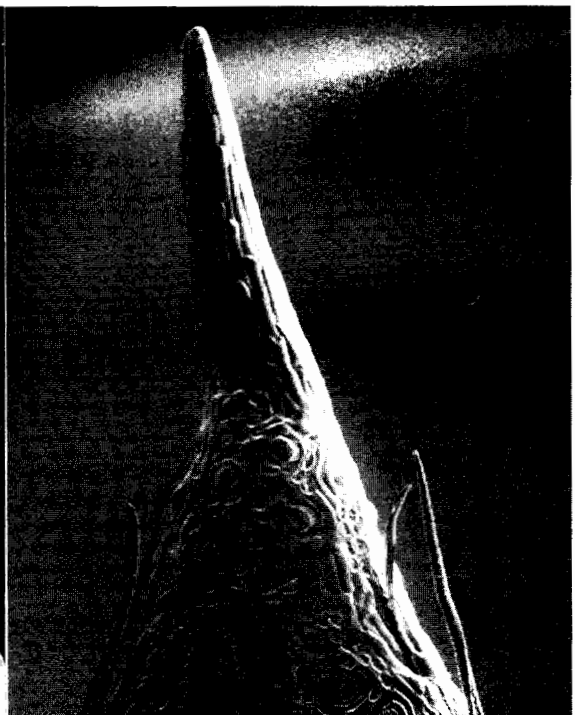
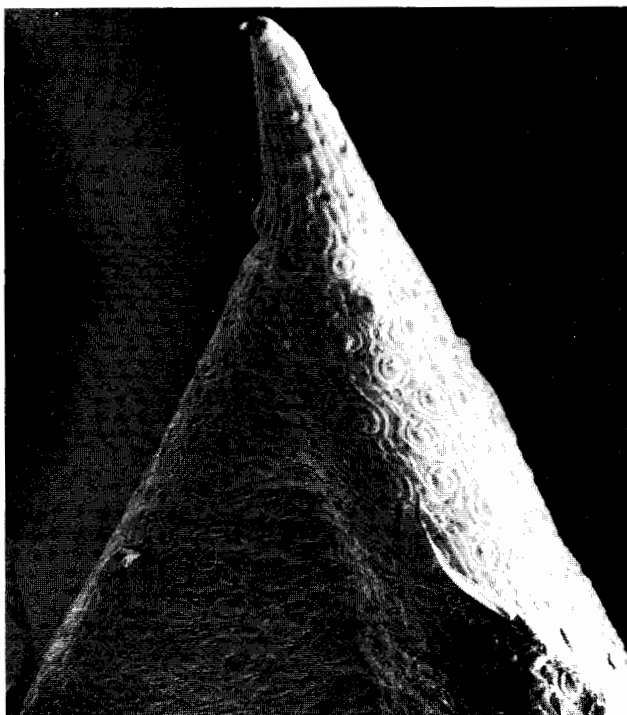
### Agronomy

'Amiga' is adapted to tropical regions with an average annual rainfall greater than 500mm.

### Table of Comparison of *Stylosanthes* Varieties

(\* = variety used for comparison)

	'Amiga'	*'Verano'
PERCENT DOUBLE LOMENTS		
mean	80.5	72.1
std deviation	9.32	7.01
significance		P0.001
NUMBER OF UPPER ARTICLES		
mean	10.8	10.0
std deviation	1.38	1.21
significance		P0.001
NUMBER OF LOWER ARTICLES		
mean	8.8	7.3
std deviation	1.75	1.27
significance		P0.001
TOTAL ARTICLES		
mean	19.6	17.3
std deviation	3.04	2.39
significance		P0.001
WIDTH OF UNIFOLIATE BRACTS		
	broad	narrow
APEX OF UNIFOLIATE BRACTS		
	acuminate	acute



Apices of unifoliate bracts of 'Amiga' (left) and 'Verano' (right). (Electron-micrograph supplied by applicant.)

---

## OBJECTIONS

**Formal objections** (S20 of the PVR Act) against any of the above applications can be lodged by a person who:

- a) considers their commercial interests would be affected by a grant of PVR to the applicant; **AND**
- b) considers that the provisions of S26 cannot be met.

A fee of \$200 is payable at the time of lodging a formal objection and \$70/hour will be charged if the examination of the objection by the PVR Office takes more than 2 hours.

**Comment:** Any person not falling into the above category may make comment on the eligibility of any of the above applications for PVR. There is no charge for this.

A person submitting a formal objection or a comment must provide supporting evidence to substantiate the claim. A copy of the submission will also be sent to the applicant and the latter will be asked to show why the objection should not be upheld.

All formal objections and comments relating to the above applications must be lodged with the Registrar by close of business on **31 March 1991**.

### *b) Descriptions to be Finalised*

Descriptions for the Journal are being finalised for the following applications. The six month period for comment or formal objection will not begin until the full descriptions are finalised and published in the Journal.

## PLUMCOT

*(Prunus domestica x armeniaca)*

Applicant: **NG & LG Bradford**, of Le Grand, California, USA  
'Red Velvet' Application No. 90/003  
Accepted: 20 February, 1990

## CREEPING BLUEGRASS

*(Bothriochloa pertusa)*

Applicant: **Queensland Department of Primary Industries** of Brisbane, Queensland  
'Dawson' Application No. 90/024  
Accepted: 6 July, 1990

## CARNATION

*(Dianthus caryophyllus)*

Applicant: **Bioprogress SP "Selca"** of Plovdiv, Bulgaria  
Agent in Australia: **Royena Nurseries (Australia) Pty Ltd** of Dingley, Victoria  
'Kovalya' Application No. 90/052  
Accepted: 26 July, 1990

## APPLE

*(Malus domestica)*

Applicant: **WA Department of Agriculture**, of South Perth, Western Australia  
'Big Time' Application No. 90/060  
Accepted: 18 May, 1990

## LEUCADENDRON

*(Leucadendron laureolum x salignum)*

Applicant: **R A Eggleton**, of Seville, Victoria  
'Katie's Blush' Application No. 90/061  
Accepted: 1 June, 1990

## ROSE

*(Rosa hybrida)*

Applicant: **SNC Meilland et Cie**, of Antibes, France  
Agent in Australia: **TVR Propagators Pty Ltd**, of Launceston, Tasmania

'Meidiaplou' Application No. 90/065  
Accepted: 1 August, 1990

'Meichevil' Application No. 90/066  
Accepted: 1 August, 1990

'Meixtraflo' Application No. 90/067  
Accepted: 1 August, 1990

'Meifrony' Application No. 90/068  
Accepted: 1 August, 1990

Applicant: **Universal Plants S A**, of Le Cannet des Maures, France  
Agent in Australia: **TVR Propagators Pty Ltd**, of Launceston, Tasmania  
'Keitaibu' Application No. 90/069  
Accepted: 1 August, 1990

## ROBINIA

*(Robinia pseudoacacia x R. hispida)*

Applicant: **William Fremer 111**, of Princeton, New Jersey, USA  
Agent in Australia: **Mossmont Nurseries Pty Ltd** of Monbulk, Victoria  
'Purple Crown' Application No. 90/072  
Accepted: 2 July, 1990

## MAPLE (*Acer palmatum*)

Applicant: **William Fremer 111**, of Princeton, New Jersey, USA  
Agent in Australia: **Mossmont Nurseries Pty Ltd** of Monbulk, Victoria  
'Crimson Prince' Application No. 90/073  
Accepted: 2 July, 1990

## WHITE MARGUERITE (*Chrysanthemum frutescens*)

Applicant: **Istituto Regionale per la Floricoltura**, of San Remo, Italy  
'Camilla Ponticelli' Application No. 90/079  
Accepted: 1 August, 1990

### 2.2 Provisional Protection

The following varieties have provisional protection under S22 of the *Plant Variety Rights Act 1987* since the last issue of the Journal:

'Red Velvet Plumcot'	Application No. 90/003
'Dawson'	Application No. 90/024
'Kovalya'	Application No. 90/052
'Big Time'	Application No. 90/060
'Katie's Blush'	Application No. 90/061
'Sunburst'	Application No. 90/062
'Sunflare'	Application No. 90/063
'Necton'	Application No. 90/064
'Meidiaplou'	Application No. 90/065
'Meichevil'	Application No. 90/066
'Meixtraflo'	Application No. 90/067
'Meifrony'	Application No. 90/068
'Keitaibu'	Application No. 90/069
'Coconut Ice'	Application No. 90/070
'Golden Ruby'	Application No. 90/071
'Purple Crown'	Application No. 90/072
'Crimson Prince'	Application No. 90/073
'Grasslands Colenso'	Application No. 90/077
'Amiga'	Application No. 90/078
'Camilla Ponticelli'	Application No. 90/079

### Corrigenda

In Vol 3 No 2 page 33 the latin name for Ryegrass was misspelt. It should correctly read *Lolium perenne*.

## ROSE (*Rosa hybrida*)

The variety '**Stebigpu**' described in Vol 3 No 2 of June had the name of applicant as Sam McCredy Roses International of Auckland, New Zealand. The correct applicant's name should read **P Stephens of Te Awamutu, New Zealand**.

## CARNATION (*Dianthus caryophyllus*)

The following two Carnation varieties were listed under provisional protection in PVJ Vol 2 No 2 but were omitted from the list of applications — Descriptions to be finalised.

Applicant: **Bioprogress SP "Selca"** of Plovdiv, Bulgaria  
Agent in Australia: **Royena Nurseries (Australia) Pty Ltd** of Dingley, Victoria  
'SREBRINA' Application No. 90/051  
Accepted: 1 May, 1990

'CANA' Application No. 90/053  
Accepted: 1 May, 1990

## KALANCHOE (*Kalanchoe blossfeldiana*)

The Australian Agent listed in PVJ Vol 3 No 2 for four varieties of *Kalanchoe blossfeldiana* hybrids

'Polka'	Application No. 90/039
'Tarantella'	Application No. 90/040
'Blues'	Application No. 90/041
'Mazurka'	Application No. 90/042

should have read **R Rother, Outeniqua Nursery** of Monbulk, Victoria

## WAX FLOWERS (*Chamelaucium* sp.)

1. In Vol 3 No 1, March 1990, page 17, caption under top photograph of 'White Spring' and 'Alba' should read: Sprigs of 'White Spring' and 'Alba'. 'Alba' has the longer wider angled leaves and larger flowers.

2. In Vol 3 No1, March 1990, page 17, caption under lower photograph of 'White Spring' and 'Alba' should read: Flowers of 'White Spring' and 'Alba'. 'White Spring' has the smaller flowers.

3. In Vol 3 No1, March 1990, page 18, caption under photograph in centre of the right hand column should read: Flowers of 'Eric John' (pink top left) and 'Stirling' (white).

## CLOVER (*Trifolium subterraneum* subsp. *brachycalycinum*)

In Vol. 3 No. 1, March 1990, page 11, an omission was made in the Origin section: Plant Variety Rights for '**Nuba**' were applied for in West Germany in 1986.

---

## APPENDIX 1

### Section 14 of the PVR Act Plant Variety Rights not to be granted in respect of varieties previously sold

14. Where an application is made for plant variety rights in respect of a plant variety, those rights shall not be granted if there has been a sale of a plant, or reproductive material of a plant, of that variety by, or with the consent of, the breeder or a breeder, or a successor of the breeder or of a breeder, of the variety, and —

- (a) the sale took place in Australia before the making of the application;
- or
- (b) the sale took place in another country earlier than 6 years before the making of the application.

## APPENDIX 2

### Section 23 of the PVR Act Characteristics of plant varieties originated outside Australia

23. For the purposes of Act, where a plant variety in respect of which an application has been accepted was originated outside Australia, the variety shall not be taken to have a particular characteristic unless —

- (a) a test growing of the variety carried out in Australia has demonstrated that the variety has that characteristic;
- (b) the Secretary is satisfied that —
  - (i) a test growing of the variety carried out at a place outside Australia has demonstrated that the variety has that characteristic; and
  - (ii) the test growing of the variety carried out at that place is equivalent to a test growing of the variety carried out in Australia; or
- (c) the Secretary is satisfied that —
  - (i) a test growing of the variety carried out at a place outside Australia has demonstrated that the variety has that characteristic;
  - (ii) any test growing of the variety carried out in Australia would probably demonstrate that the variety has that characteristic; and
  - (iii) if a test growing of the variety in Australia that would be sufficient to demonstrate whether the variety has that characteristic were to be carried out, the test growing would take longer than 2 years.

## APPENDIX 3

### Fees

As from 1 July 1990 the following fee schedule applies.

New rates will also apply to fees, not yet charged, for submissions in progress. The new rates reflect the progressive move towards full cost recovery for PVR.

### Function

	\$
Application	400
Examination of application	1400
Copy of application	70
Variation to application	70
Lodging an objection	200
Copy of objection	70
Certificate of PVR	250
Annual renewal fee	250
Request for re-examination (if required)	800
Compulsory licence	140
Transfer of rights	140
Issue of publications (other than the PV Journal)	8 (first 10 pages, then 50c/page)
Other work relevant to PVR	(70 per hour)

## APPENDIX 4

### Plant Variety Rights Advisory Committee (PVRAC)

(Members of the PVRAC were appointed in accordance with S45 of the *Plant Variety Rights Act 1987*.)

Mr B J Loudon (Chair)  
Registrar Plant Variety Rights  
Department of Primary Industries and Energy  
GPO Box 858  
CANBERRA ACT 2601

Professor Donald Marshall  
Waite Professor of Agronomy  
Waite Agricultural Research Institute  
University of Adelaide  
GLEN OSMOND SA 5064.  
Representative of breeders.

Mr Peter Wilson  
Manager of Wheat Research  
Cargill Seeds  
PO Box W252  
WEST TAMWORTH NSW 2340  
Representative of breeders.

Mr Rodney Field  
WMR Box 758  
ESPERANCE WA 6450  
Representative of producers.

Mr Richard Arthur  
GPO Box 388  
CANBERRA ACT 2601  
Representative of consumers.

Mr Edgar (Ben) Swane  
Director, Swane Bros P/L  
Galston Road  
DURAL NSW 2158  
Representative with appropriate qualifications and experience.

Dr John Leslie  
Director, Division of Plant Industry  
Queensland Department of Primary Industries  
GPO Box 46  
BRISBANE QLD 4001  
Representative with appropriate qualifications and experience.

## APPENDIX 5

### Organisations Offering to Undertake PVR Trials

The following organisations are interested in carrying out PVR trials on behalf of applicants — the PVR Office does not accept any responsibility and is publishing the list for the convenience of applicants.

**Agritech**, PO Box 549 Toowoomba Qld 4350; 076 384322; Mary Ann Law

**Agrisearch**, PO Box 972 Orange NSW 2800; 063 624539; M J Hood  
(also at Shepparton, Moree, Ridgehaven, Mackay, Armidale and Innisfail).

**Chivers Computing & Agriculture**, 3/258 Koorang Rd Carnegie Vic 3163; 03 5697538; Ian Chivers.

**Murdoch University**, School of Horticulture, Murdoch WA 6150; 09 3322810; Prof John Considine.

**Navy Bean Marketing Board**, PO Box 252, Kingaroy Qld 4610; 071 621408/621666; Mr Kerry Heit.

**Radcliffe and Till**; 42 Moss St West Ryde NSW 2114; 02 8046973; Sharon Till.

**Turf Grass Research Institute (Australian)**, PO Box 190 Concord West NSW 2138; 02 7361233; Ian McIver/Alexandra Shakesby.

**Turf Research and Advisory Institute**, PO Box 381 Frankston Vic 3199; 03 7863311; Terry Woodcock.

**University of Western Sydney, Hawkesbury**, Bourke St, Richmond NSW 2753; 045 701333; Robert Spooner-Hart.

**Flemings Nurseries Pty Ltd**, Flemings Lane, Monbulk Victoria 3793; 03 7566105; Liz Darmody

**State Departments of Agriculture and CSIRO** may do trials on a fee for service basis for some species.

## Photographic Services

**Hugh Elgar & Margie Bond, Uki Photography**, 7 Sunrise Place UKI via Murwillumbah NSW 2484

## OVERSEAS

**Rene Royon**, Conseil en Licences, 128 Les Bois de Font Merle, 06250, Mougins, France.

**GPL International**, Lavsenvaenget 18 (Postbox 29) DK Odense V Denmark : J H Selchau

## APPENDIX 6

### Amendment to S12 and 38

Section 12 of the *Plant Variety Rights Act 1987* was amended in January 1990 by adding paragraph 12(1)(e):

- (1)(e) if the plants of that variety are plants of a prescribed genus or prescribed species:
- (i) the exclusive right to produce asexually, including the right to licence other persons to produce asexually, plants of that variety for the commercial production of fruit, flowers or any other product of those plants; and

- 
- (ii) the exclusive right to produce asexually, including the right to licence other persons to produce asexually, reproductive material of that variety for the commercial production of fruit, flowers or any other product of those plants.

Subsection 12(3) has also been added:

- (3) Plant Variety Rights referred to in subparagraph (1)(e)(i) or (ii) are subject to the condition that the grantee of those rights in respect of a plant variety shall license a person:
- (a) to produce asexually plants of that variety; or
  - (b) to produce asexually reproductive material of plants of that variety;
- (as the case may be) unless the person refuses or fails to comply with any condition to which the licence may reasonably be, and is, subject.

Section 38(1) is amended by inserting (1A):

In paragraph (1)(a), 'commercial purposes', in relation to plants of a plant variety in respect of which plant variety rights referred to in subparagraph 12(1)(e)(i) or (ii) subsist, includes the commercial production of the fruit, flowers or other product of those plants.

Sections 38(2) and 38(3) are amended:

- by inserting "otherwise than by asexual means" after "produce" in paras 38(2)(a)(i) and (b)(i) and paras 38(3)(a)(i) and (b)(i);
- by inserting "otherwise than by asexual means" after "derived" in paras 38(2)(a)(ii) and (b)(ii) and 38(3)(a)(ii) and (b)(ii).



9 780644 131773

90/21629 Cat. No. 90 1673 5