



# Plant Varieties Journal

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## **Contents**

#### **Editorial**

#### Part 1 — General

Licencing Arrangements Between Breeders and Agents Objections to the Granting of Rights Chemical Characters as Distinguishing Criteria Note for Overseas Breeders The Byrne Report — Public Comment Staff

#### Part 2 — Public Notices

**PVR** Granted

Applications Accepted

a) descriptions finalised

b) descriptions to be finalised

**Objections** 

**Provisional Protection** 

Variations to Applications

Applications Withdrawn

Corrigenda

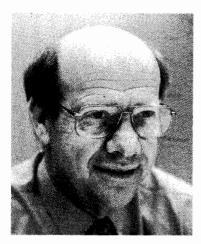
Appendix 1 — Fees Appendix 2 — Organisations offering to undertake PVR trials

Guide to Authors

PLANT VARIETY RIGHTS OFFICE, GPO BOX 858, CANBERRA ACT 2601 Telephone: (06) 272 4228 Facsimile: (06) 272 3650

The editor welcomes comments and short articles in the form of letters to 'the editor' from all sectors of the plant breeding industry for publication in the Plant Varieties Journal. Authors should follow the guide on the inside back cover.

## **Editorial**



Dr Mick Lloyd Director: PVR Office

In its continuing efforts to reduce operating costs the PVR Office has changed the layout of the Journal. Readers of this issue of the Plant Varieties Journal will immediately notice that there is a central colour section to which varietal descriptions are cross-referenced. Whilst not as convenient for the reader, the new layout neither compromises the high quality of the publication nor does it detract from its purpose.

The purpose of the Plant Varieties Journal is to inform industry about PVR and to receive objection or comment about varieties under examination. The reader's attention is drawn to the item in the following pages on 'objections'. Public accountability of the PVR Scheme and of applicants is embodied in the PVR Act 1987. The Plant Varieties Journal establishes a dialogue between the public and the PVR Office which is consistent with, and an expression of, the social justice policies of this Office, the Department of Primary Industries & Energy and the Government.

An extension of both dialogue with industry and the role of the Journal as a medium of information about plant varieties is behind the new venture detailed in the inside back cover calling for letters to 'The Editor' for publication in this journal.

Readers may have noticed the advertisement in the national press calling for public comment on the Byrne Report. Dr Noel Byrne's recommendations on the legal protection of plants in Australia under patent and plant variety rights legislation will, if adopted, make significant changes to the administration of PVR in Australia. The public consultation period will end in November and readers are invited to avail themselves of this opportunity to play a role in determining the legislation governing the administration of plant variety rights in Australia and its international standing as a member of UPOV. Details of the documents on which to base comments and the addresses to which comments should be sent are given in Part 1.

The performance of the PVR Scheme in the 1990/91 financial year was well up to expectations thanks to the exceptional individual efforts of all the staff that comprise the PVR Office team. The high level of participation by breeders and their agents, both domestic and overseas, continued and there was an increase in applications for varieties of food crops. The net cost of the scheme to the taxpayer fell appreciably. The overall good operational and financial performance of the PVR Office is essential if the scheme is to achieve its primary goal of stimulating domestic breeding and the introduction of improved varieties on which our primary industries depend for their profitability and international competitiveness.

#### CLOSING DATE FOR DECEMBER ISSUE: 22 OCTOBER 1991

Editorial Panel:

Registrar:

Dr Mick Lloyd

**Examiners:** 

Ben Loudon David Thearle

Mark Kethro

Administration:

Margaret Winsbury

Subscriptions —

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## Part 1 — General

## Licencing Arrangements between Breeder and Agent

Breeders and legal owners of new varieties could lose their exclusive marketing rights and any contractual rights to royalties they have with agents if close attention is not given to licensing arrangements with agents.

Should a person (the agent) other than the breeder or legal owner of a variety wish to apply for plant variety rights to that variety, the completion of a form or other document by the breeder (owner) authorizing the agent to apply for PVR is a mandatory requirement for all applications before they are accepted by the PVR Office (Section 15 PVR Act 1987).

Breeders, owners and agents are advised to make use of the PVR Office form entitled 'Authorization of Agent' (revised 4/91) which is a licensing arrangement limiting the agent to apply for PVR only in the name of the breeder or owner. The name of the breeder or legal owner must appear as 'the applicant' on Part 1 of the application form.

Should the authorization not be limited and if the agent's name appears as the applicant, rights will be granted to the agent. This may have the effect of nullifying the breeder's claim to exclusive marketing rights to the variety and, for example, previous agreements on royalty payments to the breeder by the agent.

### Objections to the Granting of Rights

An important feature of the Australian PVR Scheme is the provision for an objection to, or comments on, applications for plant variety rights to a variety.

Specific provision is made for the lodging of objections in Section 20, *Plant Variety Rights Act 1987*. A period of six months from the official date of public notice of the application in the Plant Varieties Journal is provided for the lodging of objections.

The grounds specified in the Act for the lodgement of objections are:

- Section 20(1)(a) that the person considers their commercial interests would be affected by the grant of those rights to the applicant; and,
- Section 20(1)(b) that the applicant has not satisfied one or more requirements listed under Section 26, or relevant conditions specified in Sections 15 to 19 of the Act.

Formal objections lodged with the PVR Office under Section 20 of the Act must be:

- in writing and be supported by proof of the claims. The onus is on the person lodging the objection to prove the claims made in the objection (see below for exceptions to this onus of proof); and
- accompanied by the prescribed fee of \$200.

Provision for public objections to the granting of rights to varieties is a means of maintaining accountability of the PVR Office and the applicant and the credibility of the PVR Scheme. However, the cost of formal objection and uncertainty as to the validity of their claims may discourage formal objections and defeat the purpose of the provisions.

The PVR Office therefore also encourages comment from persons who, whilst believing they have a case for questioning the eligibility of an application, are uncertain of the strength of the claim in terms of the relevant provisions of the Act. Comments in this category will be assessed by the Registrar and, should there be a *prima facie* case established, will invite the commenter to object formally.

Comments are welcome that draw the Registrar's attention to:

- the omission from the comparative trial of a variety similar to, or likely to be confused with, the variety which is the subject of the application;
- a questionable varietal name, procedure in the trial methodology or statement in the application.

Since it is the responsibility of the applicant to correctly apply for rights, name a new variety and perform a comparative trial, valid comments in the above categories place the onus on the applicant to show cause why the comparative trial should not be repeated or the application refused.

Confidentiality: the identity of persons making comments about an application will, as far as possible, remain confidential to the PVR Office. However, copies of formal objections made under Section 20(1) of the Act will be given to the applicant as prescribed in Section 20(2) or to any person requesting copies of the objection under Section 21 of the Act.

## Chemical Characters as Distinguishing Criteria

#### **Provisions of the Act**

It is permissible under the PVR Act 1987, to base an application for rights to a new variety solely on a difference in the chemical composition of a variety from a standard set of comparative varieties of a particular plant species, provided the difference, like a morphological criterion, is stable and uniformly displayed by all plants of the new variety over successive generations.

## Relationship between chemistry, genes and morphology of varieties

New varieties arise naturally by spontaneous mutation or by combinations of induced mutation, genetic engineering and/or traditional breeding methods. For the purpose of registering a new variety in a PVR Scheme either in Australia or overseas the breeder identifies one or more (preferably several) morphological features of the new variety which represents the genetic change and uses the morphological features to distinguish the new variety from other similar varieties. All of these stable, uniform and distinguishing morphological features are genetic in origin.

Since all stable, uniform differences between varieties have a genetic basis, and all genetic change leads to measurable chemical change in the plant, it seems to follow logically that measuring the type and quantity of chemical differences between the new

variety and known varieties is a more direct and reliable basis for the granting of rights to the new variety.

There are many standard methods for accurately quantifying different categories of chemicals that will faithfully measure genetic change and provide a 'fingerprint' of a variety. DNA (i.e. restriction fragment length polymorphisms, RFLP), and protein profiles will become increasingly important distinguishing criteria for new varieties, whilst components of intermediary metabolism, secondary metabolites (e.g. pigments, phenolics) and storage chemicals (e.g. fats, carbohydrates) are also likely to play a role in varietal 'fingerprinting'.

#### **PVR Office policy**

Current policy of the PVR Office is to accept comparative chemical assays as *supplementary* distinguishing criteria to the comparative morphological criteria used to characterise varieties for PVR applications.

There are practical reasons for this policy. New varieties depending only on chemical description will not be easily distinguishable in the marketplace. Proof of ownership of infringed material using chemical assays is likely to be more costly than easily observed morphological features. In addition, inspection by examiners of field trials may require costly, independent verification of chemical assays if chemical differences are the sole distinguishing criteria used in the application. Furthermore, distinguishing varieties for PVR using only chemical criteria has not yet been adopted in other UPOV member countries.

Whilst permissible under the Australian PVR Act and not prohibited under the UPOV Convention applicants are advised, at this stage, against basing applications for PVR solely on distinguishing chemical criteria. However, applicants may continue to use chemical criteria in addition to morphological criteria provided they strictly comply with the following guidelines.

## Guidelines for the use of chemical criteria as DUS characters

These guidelines have been formulated by the Australian PVR Office to give chemical criteria the same standing as quantitative morphological criteria as DUS characters.

- Samples for chemical analysis must be collected from statistically valid comparative trials of a design similar to those from which morphological data is collected
- The trial design, number of samples and the methods of sample collection, transport, storage and the preparation of samples for analysis must be fully described
- The assay procedure, instrumentation and the analytical standards (authoritative references) on which they are based must be specified
- Assay results must be quantified. The presence, absence or 'strength' of a 'band' on a PAGE gel, for example, will be unacceptable
- Individual samples from the comparative trial must be separately assayed and the quantitative data statistically analyzed to provide a measure of:
  - distinctness of the new variety from comparative varieties;

- uniformity, from the variance ratio of the chemical component in samples obtained from the same variety within and between replications;
- stability, from the variance ratio of the chemical component in samples from three or more different generations of the new variety.
- Pure, freeze-dried samples of the material in the finally prepared form used in comparative assays must be submitted to the PVR Office in sealed, labelled ampoules

APPLICANTS INTENDING TO USE CHEMICAL ASSAYS AS DUS CHARACTERS SHOULD BRING THESE GUIDELINES TO THE ATTENTION OF QUALIFIED PERSONS AND LABORATORIES CARRYING OUT ASSAYS ON THEIR BEHALF

#### Note for overseas breeders

The 20 UPOV member countries each offer essentially the same protection to breeders of new varieties. Ideally, there would be a universal breeders right with one application covering all countries. UPOV strives for these ideals with test guidelines and model forms and technical cooperation between member states in the form of bilateral testing agreements.

Despite UPOV efforts, breeders must contend internationally with differing application processes.

Applications in countries with official testing such as Netherlands, France and Germany, require a technical questionnaire and live material of the new variety submitted to a testing authority. This authority then tests and reports on the variety's distinctness, uniformity and stability.

Applications in countries with breeder testing such as Australia and USA, do not require plant material to be submitted. Instead, they require applicants to test and provide evidence themselves.

#### **Preliminary applications**

In common with countries with official testing, Australia also has the facility to accept a preliminary application before the full testing is completed. Once accepted, the variety is covered by provisional protection. The applicant then has time (usually 12 months but extensions may be granted) to provide the results of a comparative growing trial verifying their claims.

To make a legally acceptable application in Australia initially only requires completed forms and the correct fee. Part 2 of the form is designed to report results of a growing trial but this should not discourage breeders from applying to secure provisional protection before trial results are complete. There are many overseas bred varieties pre-release in Australia and many being commercialised under provisional protection labeled 'Australian PVR Pending'.

Instead of part 2, pending completed trial results, applicants may submit:

- the descriptive matter from a USA plant patent whether filed or not; or
- a brief comparative description of the plant's main characteristics and photographs '... sufficient to identify plants of that variety' [S16(d), PVR Act, 1987]; or

• a copy of the test report from a country with official testing (a technical questionnaire is not enough).

When a preliminary application proceeds, examination fees become due, comparative growing trial results are required and the examination processes resume. This involves publishing the results of comparative growing trials in *Plant Varieties Journal* and conducting a field examination in Australia.

#### Can overseas data be used?

Yes. Testing is normally carried out in the country where the application is lodged but this is not always necessary for Australian PVR (See *Plant Varieties Journals* Vol. 2 no. 3 and Vol. 3 no. 3).

Australia is actively pursuing bilateral testing agreements with other countries. Meanwhile, PVRO will accept data from overseas. PVRO has already published in Plant Varieties Journal growing trial results from New Zealand, Japan and Netherlands as evidence for Australian PVR claims.

### The Byrne Report — Public Comment

The Hon. Senator John Button, Minister for Industry, Technology and Commerce and Hon. Simon Crean, Minister for Primary Industries and Energy invite public comment on the Byrne Report.

Dr Noel Byrne of the University of London was jointly commissioned by the Ministers "to undertake a study of the issues raised by the present system 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 measures (including legislative and administrative measures) that would facilitate and simplify usage of patent and PVR systems or would otherwise seem convenient or necessary."

Dr Byrne has now submitted his report to the Ministers. Copies of the report are available from The Commissioner, Australian Patent Office. Interested persons and organisations are invited to submit comments on all aspects of the report including the recommendations made by Dr Byrne. Comments on the report should reach the following address, by 30 November 1991:

The Commissioner Australian Patent Office PO Box 200 WODEN ACT 2606

Telephone (06) 283 2517 Facsimile (06) 285 1048 (Attention: Dr Stephen Castle)



#### Staff

In June the Plant Variety Rights Office welcomed Margaret Winsbury to the position of Administrative Officer. Margaret is a former teacher from the NSW Teaching Service. After joining the Department of Arts, Sport, the Environment, Tourism and Territories in 1987, Margaret worked in a number of areas within that department's Environment Division including the Herbarium of the Australian National Botanic Gardens and the Natural Environment Section of the Australian Heritage Commission.

## Part 2 — Public Notices

#### **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:

## Lucerne (Medicago sativa)

'Quadrella' (Application No 90/055)
 Grantee: CSIRO, Division of Tropical Crops & Pastures
 Certificate No 110
 Expiry Date: 15 May 2010

## Euphorbia (Euphorbia milii hybrid)

'Stiloga' (Application No 90/036)
 Grantee: Marianne Schwab-Stirnadel
 Certificate No 111
 Expiry Date: 8 March 2010

'Stigaro' (Application No 90/037)
 Grantee: Marianne Schwab-Stirnadel
 Certificate No 112
 Expiry Date: 8 March 2010

'Stirot' (Application No 90/038)
 Grantee: Marianne Schwab-Stirnadel
 Certificate No 113
 Expiry Date: 8 March 2010

## Canola

(Brassica napus)

'Yickadee' (Application No 90/025)
 Grantee: NSW Agriculture & Fisheries
 Certificate No 114
 Expiry Date: 20 February 2010

'Barossa' (Application No 90/026)
 Grantee: NSW Agriculture & Fisheries
 Certificate No 115
 Expiry Date: 20 February 2010

## White Clover (Trifolium repens)

7. 'Grasslands Kopu' (Application No 89/024)
Grantee: Her Majesty the Queen in right of New Zealand
Certificate No 116
Expiry Date: 2 May 2009

## Alstroemeria (Alstroemeria hybrid)

'Wilhelmina' (Application No 89/092)
 Grantee: Könst Alstroemeria BV
 Certificate No 117
 Expiry Date: 31 October 2009

9. 'Serena' (Application No 89/093)
Grantee: Könst Alstroemeria BV
Certificate No 118
Expiry Date: 31 October 2009

## Zygocactus (Schlumbergera truncatus hybrid)

'Magic Fantasy' (Application No 90/087)
 Grantee: B L Cobia Inc.
 Certificate No. 120
 Expiry Date: 27 August 2010

'Lavendar Fantasy' (Application No 90/088)
 Grantee: B L Cobia Inc.
 Certificate No. 121
 Expiry Date: 27 August 2010

### Applications Accepted

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.

## ROSE (Rosa hybrida)

**Comparative Growing Trials** 

All characteristics described below are from comparative growing trials conducted at Rosevears, Tasmania from 1990 to May 1991. Measurements are from 20 specimens selected at random from 100 plants. Plants were grown in poly-tunnels on their own roots, in inert media with a standard nutrient solution in a controlled atmosphere. Pest and disease control was standard across the test varieties. Temperatures were maintained between 16-26°C.

Variety: 'Meifrony' commercial synonym: 'Kalinka 90'.

See fig. 1 in colour section. Application No. 90/068

Application Received: 4 June 1990.

Applicant: **SNC Meilland et Cie**, of Cap d'Antibes, France. Australian Agent: **TVR Propagators P/L**, of Rosevears, Tasmania.

Diagnosis

This variety is a light pink, upright glasshouse rose. It is distinct from known varieties in having the following combination of characters: large, light pink petals with a yellow basal spot, petals reflexing; semi-double flowers, flattened convex in profile.

Varieties used for comparison

'Sonia' ('Sweet Promise') being a similar pink rose, the closest known variety and an industry standard variety.

Origin

This variety arose from the controlled pollination of 'Emily Post' by the pollen parent 'Jelpirofor'. Plant Variety Rights have been applied for in France, Italy, Japan and plant patent in United States of America.

Morphology — see comparison tables

'Meifrony' has a large, light pink flower, flattened-convex in profile. Petals are large but few, strongly reflexed and with a yellow basal spot evident on both the inside and outside of the petal. Buds are conical, stamen filaments are cream and styles are pink. Sepal extensions are moderate and anthocyanin present in the young shoots. The plant and stems are tall and upright. Leaflets are large and rounded at the base. Thorn profiles are flat above and concave below. There are few thorns on the pedicel. The seed vessel is medium sized and pitcher shaped. See also colour photograph fig 1.

#### **Table of Comparison of Rose Varieties**

	'Meifrony' ('Kalinka 90')	*'Sonia' ('Sweet Promise')	'Keitaibu' ('Laser')
FLOWER COLOUR GROUP	light pink	medium pink	deep pink
PLANT GROWTH TYPE	upright	upright	upright
FLOWER COLOUR			
petal midzone outside RHS		38C	68D
pote	5 56C	38A	68A
P	5 55C	38C	68B
	55C	38A	67B
petal basal spot inside RHS	5 2D	2D	2C
petal basal spo			
outside RHS	5 1D	5C	2D
NUMBER OF PETALS	19-23	26-50	29-34
FLOWER DIAMETER			
mean	138.0mm	117.3mm	116.4mm
range	125—151	100—140	108—125
standard deviation	6.58	10.62	5.87
STAMEN FILAMENT COLO	UR		
	cream	yellow	pink/orange
STYLE COLOUR	pink	red	red/pink
STIGMAS RELATIVE TO AN	NTHERS level	below	below
ANTHOCYANIN IN SHOOTS	-	abaant	absort
	red	absent	absent
TERMINAL LEAFLET LENG		96 4	01 0
mean	113.7mm	86.4mm	81.8mm
range standard deviation	95—143 10.9	64—102 8.8	70—97 7.3
		0.0	
TERMINAL LEAFLET WIDT		50.7	55.4
mean	62.6mm	53.7mm	55.4mm
range	47—73	42—59	44—64
standard deviation	6.18	4.70	5.01
TERMINAL LEAFLET PETIC			
mean	19.0mm	17.2mm	16.0mm
range	15—26	13—21	1225
standard deviation	3.19	2.78	2.96
THORN PROFILE			
above	flat	convex	convex
below	concave	deep concave	concave
THORN LENGTH		9.04mm	8.90mm
THORN LENGTH mean	9.85mm		
	9.85mm 8—12	5—13	8—11
mean			
mean range	8—12 1.31	5—13 0.51	8—11
mean range standard deviation	8—12 1.31 45.2mm	5—13 0.51 38.1mm	8—11 0.89 44.5mm
mean range standard deviation SEPAL LENGTH	8—12 1.31	5—13 0.51	8—11 0.89

#### **Table of Comparison of Rose Varieties**

(\* = variety used for comparison)

	'Keinoumi' ('Scarlet Mimi	* 'Samantha'	* 'Sonia' ('Sweet Promise
FLOWER COLOUR GROUP	medium red	dark red	medium pink
PLANT GROWTH TYPE	tall spray	tall upright	upright
FLOWER COLOUR			
petal midzone outside RHS	54A	60B	38C
	52A	46B	38A
•	51A	60B	38C
•	52B	46B	38A
petal basal spot inside RHS		2D	2D
petal basal spot outside RHS		1D	5C
NUMBER OF PETALS	20—31	26—50	26—50
FLOWER DIAMETER			
mean	67.7mm	92.7mm	117.25mm
range	60-75	81-104	100-140
standard deviation	5.1	10.6	10.6
STAMEN FILAMENT COLOU	JR		
	yellow	yellow/green	yellow
STYLE COLOUR	white	red	red
STIGMAS RELATIVE TO AN	THERS		
	above	above	below
ANTHOCYANIN	weak	red	absent
SEPAL EXTENSIONS	weak	weak	weak
TERMINAL LEAFLET LENGT	Ή		
mean	75.5mm	68.3mm	86.4mm
range	66—88	57—80	64—102
standard deviation	6.13	6.44	8.80
TERMINAL LEAFLET WIDTH			
mean	50.5mm	42.35mm	53.7mm
range	41-59	34-49	4259
standard deviation	4.63	4.15	4.70
TERMINAL LEAFLET PETIOL	ULE LENGTH		
mean	27.0mm	24.2mm	17.2mm
			13—21
range	18—27	18—28	13-21
	18—27 2.85	18—28 2.72	2.78
standard deviation			
Standard deviation			
standard deviation THORN PROFILE above	2.85	2.72	2.78
Standard deviation  THORN PROFILE  above  below	2.85	2.72 concave	2.78
Standard deviation  ITHORN PROFILE  above  pelow  ITHORN LENGTH	2.85	2.72 concave	2.78
THORN PROFILE above pelow THORN LENGTH	2.85  concave flat  8.05mm	concave concave	2.78 convex deep concave
THORN PROFILE above pelow THORN LENGTH mean range	2.85 concave flat	concave concave	convex deep concave
THORN PROFILE above below THORN LENGTH mean range standard deviation	2.85  concave flat  8.05mm 6—12	concave concave 9.29mm 6—12	convex deep concave 9.04mm 5—13
STANDARD DEVIATION  THORN PROFILE SUBSECTION  THORN LENGTH	2.85  concave flat  8.05mm 6—12	concave concave 9.29mm 6—12	convex deep concave 9.04mm 5—13
range standard deviation  THORN PROFILE above below  THORN LENGTH mean range standard deviation  SEPAL LENGTH mean range	2.85  concave flat  8.05mm 6—12 1.40	2.72  concave concave  9.29mm 6—12 1.27	convex deep concave  9.04mm 5—13 0.51

Variety: 'Keitaibu' commercial synonym: 'Laser'

See fig. 2 in colour section. Application No. 90/069

Application Received: 4 June 1990.

Applicant: Universal Plants, of Antibes, France.

Australian Agent: TVR Propagators P/L, of Rosevears,

Tasmania.

#### Diagnosis

'Keitaibu' is a deep pink glasshouse rose. It is distinct from known varieties in having the following combination of characters: large, deep pink double flowers with large reflexed petals, pale on the underside; shoots with very weak anthocyanin.

#### Varieties used for comparison

'Sonia' ('Sweet Promise') being a close and well known variety, the seed parent and an industry standard variety.

#### Origin

'Keitaibu' arose from the controlled pollination of 'Sonia' by an unnamed pollen parent seedling. Plant Variety Rights have been applied for in France and Germany. 'Keitaibu' has been sold in Holland since November 1989.

#### Morphology — see comparison tables

'Keitaibu' is a large flowered, tall and upright greenhouse rose. There are 29-34 petals which are large, deep pink on the inside, pale pink on the outside and have a yellow basal spot. Petals are moderately reflexed. The flower has a flattened convex upper profile and buds are ovate. Stamen filaments are pink/orange. Styles are red. Sepal extensions are weak. Seed vessels are large and pitcher shaped. Anthocyanin expression in the shoots is weak. Thorn profile is convex above and deep concave below. There are few thorns on the pedicel. See also colour photograph fig. 2.

Variety: 'Keinoumi' commercial synonym:

'Scarlet Mimi'.

See fig. 3 in colour section.

Application No. 90/085.

Application Received: 16 August 1991

Applicant: Universal Plants, of Antibes, France.

Australian Agent: TVR Propagators P/L, of Rosevears,

Tasmania.

#### Diagnosis

'Keinoumi' is a medium red, tall, upright, spray type glasshouse rose. It is distinct from known varieties in having the following combination of characters: medium red petals in a small flower; white styles; new stems with very weak anthocyanin.

#### Varieties used for comparison

'Samantha' being the closest known variety and 'Sonia' ('Sweet Promise'), an industry standard variety.

#### Origin

This variety arose from the controlled pollination of an unnamed seedling by the pollen parent 'Hittaco'. It was bred by Mr Seizo Suzuki in Japan. Plant Variety Rights have

been applied for in France in October 1989 and it has been sold there since November 1989.

Morphology — see comparison tables

'Keinoumi' is a tall, upright, medium red glass-house spray rose. The moderate number of small reflexed petals have a small white basal spot. Flowers are flat in upper profile. Buds are ovate. Seed vessel is small and pitcher shaped. Sepal extensions are moderate and anthocyanin is weak in new shoots. Stamen filament colour is yellow, the styles are white tipped pink and the stigmas are above the anthers. The terminal leaflet base is rounded. Thorn profiles are concave above and below with few on the pedicel. See also colour photograph fig. 3.

Variety: 'Meijaudiair' commercial synonym: 'Aussie Gold'. See fig. 4 in colour section. Application No. 90/084

Application Received: 16 August 1991.

Applicant: **SNC Meilland et Cie**, of Cap d'Antibes, France. Australian Agent: **TVR Propagators P/L** of Rosevears, Tasmania.

Diagnosis

'Meijaudiair' is a large, yellow, tall upright, glass-house rose. It is distinct from known varieties in having the following combination of characters: deep yellow, large, undulating petals and very weak anthocyanin in the new shoots.

Varieties used for comparison

'Meivouplix' ('Kabuki 89') being the closest known variety and 'Sonia' ('Sweet Promise') being an industry standard variety.

Origin

'Meijaudiair' arose from the controlled pollination of 'Meirinlor' by a progeny of 'Meiger' and 'Meifan'. It has been protected by Plant Variety Rights in Germany since October 1987 and sold in Holland since November 1987.

Morphology — see comparison tables

'Meijaudiair' is a tall, upright glass-house rose with large flowers having 29-41 deep yellow, undulating petals and a slightly darker yellow basal spot than 'Sonia'. The bloom has a flat upper profile and ovate buds. Seed vessels are large and pitcher shaped. Sepals have strong extensions and are moderate in length. Stamen filament colour is yellow and style colour is red with stigmas level with anthers. Anthocyanin expression is weak. Terminal leaflets are large and rounded at the base. Thorns are concave above, deep concave below and absent on the pedicel. See also colour photograph fig. 4.

#### Table of Comparison of Rose Varieties

	Meijaudiair′ *′S ussie Gold′) (′S	Sonia' Sweet Promise')	*'Meivouplix' ('Kabuki 89')
FLOWER COLOUR GROUP	deep yellow	med/pink	deep yellow
PLANT GROWTH TYPE	upright	upright	upright
FLOWER COLOUR			
petal midzone outside RHS		38C	7A
petal midzone inside RHS		38A	9A
petal margin outside RHS		38C	7A
petal margin inside RHS petal basal spot inside RHS	10B	38A 2D	9A
petal basal spot outside RH		5C	_
NUMBER OF PETALS	29—41	26—50	26—50
FLOWER SIZE			
mean	120.9mm	117.3mm	150.1mm
range	98—139	100140	130—160
standard deviation	9.37	10.62	8.46
STAMEN FILAMENT COLO			ella
	yellow	yellow	yellow
STYLE COLOUR	red	red	yellow
STIGMAS RELATIVE TO AN	ITHERS		
	level	below	below
ANTHOCYANIN	absent	absent	red
SEPAL LENGTH			
mean	40.0mm	38.1mm	37.5mm
range	32—48	32—46	33—47
standard deviation	3.53	3.42	2.35
TERMINAL LEAFLET LENG			
mean	106,2mm	86.4mm	90.9mm
range	91—115	64—102	85—98
standard deviation	7.19	8.8	4.71
TERMINAL LEAFLET WIDTI		F0.7	547
mean	64.3mm	53.7mm	54.7mm
range standard deviation	50—72 5.37	42—59 4.70	47—64 4.99
TERMINAL LEAFLET PETIO			
mean	19.0mm	17.2mm	20.95mm
range	17—26	13—21	17—24
standard deviation	2.80	2.78	2.46
THORN PROFILE			
above	concave	convex	flat
below	deep concave	concave	concave
THORN LENGTH			
mean	7.50mm	9.04mm	6.87mm
range standard deviation	69 0.91	5—13 0.51	6—12
otariuaru uevidilofi	U.31	0.51	0.69

#### **Table of Comparison of Rose Varieties**

(\* i variety used for comparison)

			* 'Sonia' ('Sweet Promise'
FLOWER COLOUR GROUP	medium pink	dark red	medium pink
PLANT GROWTH TYPE	tall spray	tall upright	upright
FLOWER COLOUR			
petal midzone outside RHS	55A	60B	38C
-	55A	46B	38A
petal margin outside RHS	54A	60B	38C
	54B	46B	38A
petal basal spot inside RHS		2D	2D
petal basal spot outside RHS		1D	5C
NUMBER OF PETALS	36—52	26—50	26—50
FLOWER DIAMETER			
mean	69.9mm	92.7mm	117.25mm
range	61—77	81—104	100—140
standard deviation	4.64	10.6	10.6
STAMEN FILAMENT COLOU	JR		
	pink	yellow/green	yellow
STYLE COLOUR	pink	red	red
STIGMAS RELATIVE TO AN	THERS		
	above	above	below
ANTHOCYANIN	weak	red	absent
SEPAL LENGTH			
mean	25.3mm	25.2mm	38.1mm
range	21—28	21—29	32—46
standard deviation	2.03	2.41	3.42
TERMINAL LEAFLET LENGT			
mean	66.75mm	68.3mm	86.4mm
range	57—73	57—80	64—102
standard deviation	6.00	6.44	8.80
TERMINAL LEAFLET WIDTH			
mean	47.6mm	42.35mm	53.7mm
range	38—55	34—49	4259
standard deviation	5.01	4.15	4.70
TERMINAL LEAFLET PETIOL	00.0	04.0	47.0
mean	22.8mm	24.2mm	17.2mm
range	17—29	18—28	13-21
standard deviation	2.94	2.72	2.78
THORN PROFILE			
above	concave	concave	convex
below	flat	concave	deep concave
THORN LENGTH	0.50		0.04
mean	6.50mm	9.29	9.04mm
			E 17
range standard deviation	5—8 1.02	6—12 1.27	5—13 0.51

Variety: 'Meixtraflo' commercial synonym: 'Lutin'.

See fig. 5 in colour section. Application No. 90/067

Application Received: 4 June 1991.

Applicant: SNC Meilland et Cie, of Cap d'Antibes, France. Australian Agent: TVR Propagators P/L of Rosevears, Tasmania.

#### Diagnosis

'Meixtraflo' ('Lutin') is a medium pink, tall upright, spray rose. It is distinct from known varieties in having the following combination of characters: a small flowered spray rose with reflexed pink petals and weak anthocyanin expression in young stems.

#### Varieties used for comparison

'Sonia' ('Sweet Promise') being the closest known variety and an industry standard variety.

#### Origin

'Meixtraflo' arose from the controlled pollination of 'Jeldaniran' by 'Meichevil'. Plant Variety Rights have been applied for in France, Holland, Italy and Germany. It was first sold in Holland in November 1987.

#### Morphology — see comparison tables

'Meixtraflo' is a tall upright spray double rose. It has small medium pink flowers with reflexed petals. The upper profile of the flowers is flattened convex. The seed vessel is small and pitcher shaped and buds are ovate. Sepals are short with weak extensions. Stamen filament colour and style colour is pink with stigmas above the level of the anthers. Leaves are medium sized and rounded at the base. Thorn profiles are concave above and below with few thorns on the pedicel.

See also colour photograph fig. 5.

### ROSE (Rosa grandiflora)

#### **Comparative Growing Trials**

All characteristics described for the following varieties are from comparative growing trials conducted at Narromine in open garden beds. The varieties are propagated by bud grafting.

Variety:	'Michelle	Jov'	commercial	svnonvm

'Aroshrel'. See fig. 6 in colour section. Application No. 90/130

Applicant: Bear Creek Gardens Inc. of Somis, California

Australian Agent: Swanes Nursery of Galston Road, Dural New South Wales

#### Diagnosis

'Michelle Joy' ('Aroshrel') is a pink bedding rose. It is distinct from all other known varieties in having the following combination of characters: light to deep pink double blooms on long stems; buds ovate; upright habit with dark green foliage; thorns concave above and below; no thorns on the pedicel.

#### Varieties used for comparison

'Touch of Class' ('Kricarlo') being the closest known variety and 'Young at Heart' being a similar well known variety in Australia.

#### Origin

'Michelle Joy' arose from the pollination of 'Shreveport' by an unnamed seedling in California. It is covered by a Plant Patent in USA.

#### Table of Comparison of Rose varieties

(\* ï variety used for comparison)

		'Michelle Joy ('Aroshrel')	' *'Touch of Clas ('Kricarlo')	ss'*'Young at Heart
FLOWER DIAMETER				
mean		115.7 mm	97.0 mm	81.2 mm
range		105 - 140	90 — 105	75 — 90
standard deviation		12.6	5.0	5.5
PETAL COLOUR				
In whole bloom	RHS	52C-52D	49B-C	49C
midzone outside	–	52C	49C	49C
midzone inside	RHS	52D	50 <b>B</b>	49C
margin outside	RHS	52B	49B	49C-D
margin inside	RHS	52B	48C	49C-D
NUMBER OF PETALS		26 — 50	Ï <b>5</b> 0	Ï50
STAMEN — COLOUR	OF FI	LAMENT		
		orange	yellow green	yellow
TERMINAL LEAFLET L	ENGT	• •		
mean		74.0 mm	75.4 mm	62.2 mm
range		62 - 94	62 — 94	56 — 70
standard deviation		9.2	6.8	4.7
SHAPE ON BASE OF 1	FERM	INAL LEAFLE	T	
		obtuse	obtuse	rounded
TERMINAL LEAFLET V	VIDTH			
mean		55.9 mm	54.7 mm	47.8 mm
range		48 — 75	47 — 70	36 - 56
standard deviation		7.3	5.1	5.4
THORN LENGTH				
mean		10.5 mm	11.9 mm	8.0 mm
range		9 — 13	9 — 14	6 — 10
standard deviation		1.0	1.2	1.0
THORN SHAPE				
upper side		deep		
		concave	concave	concave
lower side		concave	concave	concave
THORNS ON PEDICEL		few	absent	few
SEPAL LENGTH				
mean		35.6 mm	27.7 mm	24.1 mm
range		32 - 45	25 - 30	21 - 28
standard deviation		4.5	2.0	2.1

Morphology — See comparison tables.

'Michelle Joy' is a hybrid rose of light to deep pink blooms on an upright bush. Young growing shoots show red anthocyanin. Terminal leaflet is obtuse at the base and flat in cross section. Sepal extensions are medium and similar to 'Touch of Class' and 'Young at Heart'. The flower shape in upper profile is flat and the blooms are larger than 'Touch of Class' and 'Young at Heart'. Stamen filaments are orange, styles are white and stigmas are above the level of the anthers. Fragrance is weak. Petal reflexing is medium on 'Michelle Joy' but very strong on 'Touch of Class'. Seed vessel size is medium and shape is pitcher. See also colour photograph fig. 6.

Variety: 'Happy Days' commercial synonym 'Macseatri'. See fig. 7 in colour section.

Application No. 90/127

Applicant: Sam McGredy Roses International of Auckland, New Zealand

Australian Agent: **Swanes Nursery** of Galston Road, Dural New South Wales

Diagnosis

'Happy Days' is a pink bedding rose. It is distinct from all other known varieties in having the following combination of characters: Petals creamy white with pale pink margins; upright growth with medium glossy green foliage showing red anthocyanin on the new growth.

#### Varieties used for comparison

'Princess de Monaco' ('Meimagarmic') being the closest known variety and 'Pristine' ('Jacpico') being a similar well known variety in Australia.

Origin

'Happy Days' arose from the pollination of a seedling of 'Picasso' by 'Paradise' in New Zealand and has been covered by Plant Variety Rights in that country since 1989. The breeder is Sam McGredy.

Morphology — See comparison tables.

Leaves of 'Happy Days' are a medium green with a rounded base and flat cross-section. ('Pristine' and 'Princess de Monaco' have darker, larger more glossy foliage.) Red anthocyanin is present on the young shoots. Thorns are flat above, deep concave on the lower side and few on

#### **Table of Comparison of Rose Varieties**

		y Days' cseatri')		ncess de Monac Meimagarmic')	o *'Pristine' ('Jacpico')
TERMINAL LEAFLET	LENG	ГН			
mean		68.2 mm		70.8 mm	84.5 mm
range		50—87		60-83	68—97
standard deviation		8.7		7.0	7.2
TERMINAL LEAFLET	WIDTH	1			
mean		48.1 mm		54.8 mm	54.3 mm
range		40-60		48-62	48-58
standard deviation		5.8		4.0	3.8
FLOWER DIAMETER				-	
mean		83.1 mm		120.3 mm	95.7 mm
range		75-100		105—135	85—105
standard deviation		11.1		9.0	7.4
PETAL COLOUR				· · · · · · · · · · · · · · · · · · ·	***
In whole bloom	RHS	155BC-6	37B	155D-68A	155B-68C
midzone outside	RHS	155B-C		155D	155B
midzone inside	RHS	155BC		155D	155B
margin outside	RHS	67B		68A	68C
margin inside	RHS	67B		68A	68C
NUMBER OF PETALS		>50		26—50	26—50
STAMEN — COLOUR	OF FII	AMENT			
		yellow-red	t	yellow-red	red
STIGMA IN RELATION	I TO A	NTHERS			
		same leve	el	same level	above
THORN LENGTH					TO THE STATE OF TH
mean		8.0 mm		10.1 mm	7.7 mm
range		7—10		9—12	69
standard deviation		1.1		0.7	0.7
HEIGHT OF BASAL SE	POT	15 mm		9 mm	5 mm

the pedicel. Blooms are doubles, flat in upper profile with many creamy white petals edged with pink shades and a large (15mm) pale yellow basal spot inside and outside. Both comparative varieties have much smaller (9mm and 5mm) basal spots. Petals are reflexed. Stamen filaments are yellow. Style colour is red and the stigmas are the same level relative to the anthers. Fragrance is moderate and seed vessel size medium. See also colour photograph fig.

Variety: 'Precious Michelle' commercial synonym 'Macbucpal'. See fig. 8 in colour section.

Application No. 90/128

Applicant: Sam McGredy Roses International of Auckland, New Zealand

Australian Agent: Swanes Nursery of Galston Road, Dural **New South Wales** 

#### Table of Comparison of Rose Varieties

(\* = variety used for comparison)

	•	'Precious 'Michelle' ('Macbucpal')	*'Valerie Swane'	*'Apricot Nectar'
FLOWER DIAMETER		*		
mean		87.0 mm	88.7 mm	101.7 mm
range		80—110	85—100	95—110
standard deviation		9.3	4.8	5.9
PETAL COLOUR				
In whole bloom		155B	155B—D	27BC—29C
midzone outside		155B	155D	29C
midzone inside		155B	155B	29C
margin outside		155B	155D	29C
margin inside	RHS	155B	155B	29D
SIZE OF BASAL SPOT		9 mm	nil	8 mm
NUMBER OF PETALS		>50	>50	>50
STAMEN — COLOUR	OF FII	LAMENT		
		yellow to	bronze	yellow to
		orange		orange
STIGMA IN RELATION	TO A	NTHERS		
		same level	above	above
STYLE COLOUR		red	red	red
TERMINAL LEAFLET L	ENGT	.H		
mean		70.1 mm	59.8 mm	72.7 mm
range		56 — 88	53 - 68	62 — 91
standard deviation		8.1	4.9	7.0
SHAPE ON BASE OF 1	ERM	NAL LEAFLET		
		rounded	obtuse	wedge
TERMINAL LEAFLET V	VIDTH			
mean	•	50.7 mm	36.0 mm	47.3 mm
range		42 — 56	32 — 43	40 — 59
standard deviation		4.9	2.9	4.8
THORN LENGTH				
		8.2 mm	8.8 mm	8.7 mm
				· · · · · · · · · · · · · · · · · ·
mean		7 — 10		7 — 10
			5 — 10 1.1	7 — 10 1.0
mean range standard deviation		7 - 10	5 — 10	
mean range		7 - 10	5 — 10	
mean range standard deviation SEPAL LENGTH		7 — 10 0.9	5 — 10 1.1	1.0

#### Diagnosis

'Precious Michelle' is a double white/apricot bedding rose with a continuous flowering habit. It is distinct from all other known varieties in having the following combination of characters: large blooms white shading to pale apricot; a medium sized petal basel spot present on the inside of the petal.

#### Varieties used for comparison

'Valerie Swane' being the closest known variety and 'Apricot Nectar' being a similar well known variety in Australia.

#### Origin

'Precious Michelle' arose from the pollination of 'Sexy Rexy' by an unnamed seedling (seedling x 'Ferry Porsche') in New Zealand and is covered by Plant Variety Rights in that country since 1990. The breeder is Sam McGredy.

#### Morphology — See comparison tables.

Blooms of 'Precious Michelle' are large, convex with many petals shading from white to pale apricot. The yellow basal spot is present on the inside of the petals only. (The petals of 'Valerie Swane' have no basal spot and those of 'Apricot Nectar' have a smaller basal spot on both inside and outside.) Bud shape is ovate. Fragrance is moderate, petal reflexing is mild. Seed vessel is medium in size and pitcher shaped. Thorns are concave and absent from the pedicel. Leaves are glossy, medium size and larger than 'Valerie Swane'. The terminal leaflet has undulating margins, is rounded at the base and flat in cross section. ('Valerie Swane' has terminal leaflets with level margins, concave in cross section and the terminal leaflet is obtuse at the base. 'Apricot Nectar' terminal leaflets have level margins and flat in cross section and the terminal leaflet is wedge shaped at the base.) See also colour photograph fig. 8.



Variety: 'Rock & Roll' commercial synonym 'Macfirwal'. See fig. 9 in colour section.

Application No. 90/129

Applicant: Sam McGredy Roses International of Auckland, New Zealand

Australian Agent: Swanes Nursery of Galston Road, Dural **New South Wales** 

#### Diagnosis

'Rock & Roll' is a red blend bedding rose. It is distinct from all other known varieties in having the following combination of characters: a semi-double small floribunda; upright growth with medium glossy green foliage showing red anthocyanin on the new growth.

#### Varieties used for comparison

'Confetti' ('Arojechs') being the closest known variety and 'Charisma' being a similar well known variety in Australia.

'Macfirwal' arose from the pollination of 'Sexy Rexy' by 'Maestro' in New Zealand and Plant Variety Rights have been applied for in that country since 1989. The breeder is Sam McGredy.

#### Morphology — See comparison tables.

'Rock & Roll' has small semi-double flowers with petals splashed with red at the undulating margins to white in the mid-zone and yellow at the base. (Flowers of 'Confetti'



Fig. 1. Characteristics of 'Meifrony' ('Kalinka'). (Photograph supplied by applicant).

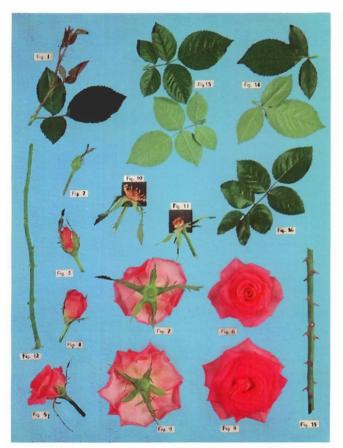


Fig. 2. Characteristics of 'Keitaibu' ('Laser'). (Photograph supplied by applicant).



Fig. 3. Characteristics of 'Keinoumi' ('Scarlet Mimi'). (Photograph supplied by applicant).



Fig. 4. Characteristics of 'Meijaudiair' ('Aussie Gold'). (Photograph supplied by applicant).



Fig. 5. Characteristics of 'Meixtraflo' ('Lutin'). (Photograph supplied by applicant).



Fig. 6. Flowers of 'Touch of Class' (left), 'Michelle Joy' (centre) and 'Young at Heart'. (Photograph supplied by applicant.)



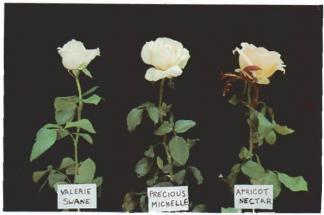


Fig. 8. Flowers of 'Valerie Swane' (left), 'Precious Michelle' (centre), and 'Apricot Nectar'. (Photograph supplied by applicant.)



Fig. 9. Flowers of 'Confetti' (left), 'Rock & Roll' (centre) and 'Charisma'. (Photograph supplied by applicant.)



Fig. 10. Flowers of 'Satchmo' (left), 'Hans Christian Andersen' (centre) and 'Bloomin' Easy'. (Photograph supplied by applicant.)

Fig. 7. Flowers of 'Princesse de Monaco' (left), 'Happy Days' (centre), and 'Pristine'. (Photograph supplied by applicant.)



Fig. 11. 'Lemon Whizz'. (Photograph supplied by applicant).

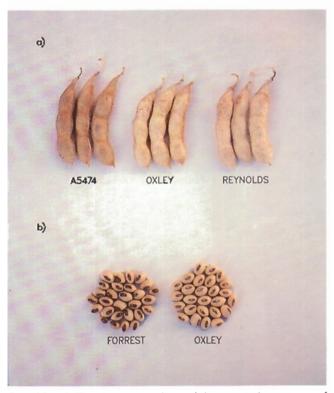


Fig. 12. a) The brown pods and brown pubescence of 'A5474', tan pods and brown pubescence of 'Oxley' and tan pods and grey pubescence of 'Reynolds'. b) The dark and wide black hillum of 'Forrest', contrasted with the normal black hillum of 'Oxley'. (Photograph supplied by applicant).

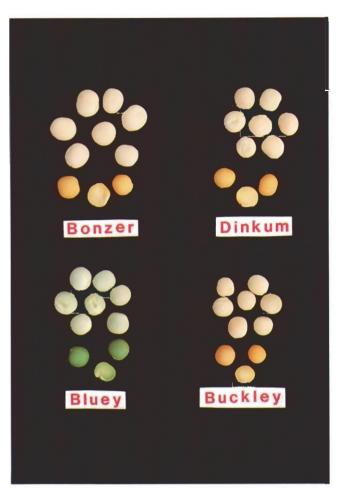


Fig. 13. Seeds of 'Bonzer', 'Dinkum', 'Bluey' and 'Buckley', whole (top) and split (bottom) (Photograph supplied by applicant).



Fig. 14. 'Pink Bouquet' (variegated foliage) with 'Bonne Petite' (normal foliage). (Photograph supplied by applicant).



Fig. 15. Cupressus glabra 'Limelight' (centre) with C. glabra 'aurea' and C. glabra common form. (Photograph supplied by applicant).

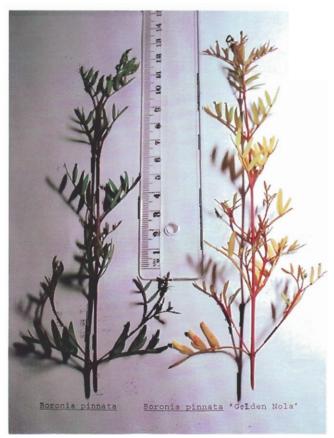


Fig. 16. Boronía pinnata (left) and 'Golden Nola'. (Photograph supplied by applicant).



Fig. 17. Citrus hybrid 'Sunset' (Photograph supplied by applicant).



Fig. 18. Citrus reticulata 'Imperial', (Photograph supplied by applicant).



Fig. 19. Citrus hybrid 'Ellendale'. (Photograph supplied by applicant).

are also carried in clusters but are larger and shade from yellow orange to orange red and, flowers of 'Charisma' are produced singly or in clusters and are yellow orange to red.) The petals of 'Rock & Roll' carry a large (15mm) yellow basal spot on the inside and outside surfaces while that of 'Confetti' is smaller (10mm) and 'Charisma' has none. Buds are ovate, fragrance is absent and sepal extensions are absent. Stamen filaments are yellow. Style filaments are yellow with the stigma slightly above the anthers. Seed vessel is small and pitcher shaped. Terminal leaflets are medium green (paler than 'Charisma'), medium size, glossy with an obtuse base. Thorns are few on the pedicel and concave. See also colour photograph fig. 9.

#### **Table of Comparison of Rose Varieties**

(\* = variety used for comparison)

		'Rock & Roll' ('Macfirwal')	*'Confetti' ('Arojechs')	*'Charisma'
FLOWER DIAMETER				
mean		61.5 mm	71.0 mm	56.7 mm
range		55 — 70	60 - 80	50 — 60
standard deviation		4.6	5.0	3.3
PETAL COLOUR				
In whole bloom	RHS	40A TO 10B	33A/B/C TO	40A TO
			17C/B	15B/C/D
midzone outside	RHS	38C D	33A	15B
midzone inside		40A	30C/D	15B
margin outside	_	38C/D	33A	40B
margin inside		40A	33C	40B
SIZE OF BASAL SPOT		15 mm	10 mm	nil
NUMBER OF PETALS		13 — 25	26 - 50	>50
TERMINAL LEAFLET L	ENGI	`H		
mean		57.9 mm	63.6 mm	58.3 mm
range		48 — 68	56 - 73	48 66
standard deviation		5.6	4.3	4.4
SHAPE ON BASE OF T	FRM	NΔI I FAFI FT		
OTTATE ON BASE OF T		obtuse	obtuse	obtuse
TERMINAL LEAFLET V	VIDTL	I		
	ווטוי	43.6 mm	42.3 mm	39.7 mm
mean		37 — 51	40 — 47	31 — 50
range			40 — 47 2.5	
standard deviation		4.5	2.5	4.5
THORN LENGTH				
mean		7.3 mm	8.3 mm	3.2 mm
range		6 - 9	7 — 10	2 - 4
standard deviation		0.9	1.1	0.8
THORN SHAPE				
upper side		concave	deep concave	concave
lower side		concave	deep concave	
THORNS ON PEDICEL		few	many	many
SEPAL LENGTH				
mean		25.4 mm	26.7 mm	22.5 mm
		20 — 30	21 — 34	20 — 27
range		2.2	21 — 34 3.7	2.3
standard deviation		2.2	3.7	2.3

Variety: 'Hans Christian Andersen' commercial synonym:

'Poulander'. See fig. 10 in colour section.

Application No. 90/131

Applicant: Poulsen Rose Aps of Fredensborg Denmark

Australian Agent: **Swanes Nursery** of Galston Road, Dural, New South Wales

#### Diagnosis

'Hans Christian Andersen' is a red, tall upright to bushy, floribunda, bedding rose. It is distinct from all other known varieties in having the following combination of characters: a semi-double dark red flower.

#### Varieties used for comparison

'Bloomin Easy' ('Arotrusim') being the closest known variety and 'Satchmo' being a similar well known variety in Australia.

#### Origin

'Hans Christian Andersen' arose from the pollination of 'Royal Occasion' by an unnamed seedling in Denmark and has been protected by Plant Variety Rights in that country since 1987. The breeders are Pernille Olesen and Mogens N. Olesen of Poulsen Roser Aps.

#### Table of Comparison of Rose Varieties

		'Hans Christ- ian Andersen'	*'Bloomin Easy' ('Arotrusim')	*'Satchmo' ('Poulander')
FLOWER DIAMETER				
mean		55.2 mm	64.4 mm	75.0 mm
range		50 - 60	52 — 75	70 — 85
standard deviation		3.7	4.6	3.9
PETAL COLOUR				
In whole bloom	RHS	45A	57B	46C
midzone outside	RHS	57B	57B	58B
midzone inside	RHS	45B	57B	46C
margin outside	RHS	57A	57B	57A
margin inside	RHS	45A	57B	46C
NUMBER OF PETALS		13 — 50	13 — 50	13 — 50
HEIGHT OF BASAL SP	OT	7 mm	2 mm	1 mm
STIGMA IN RELATION	TO A	NTHERS		
		below	below	level
TERMINAL LEAFLET L	ENGT	.H		
mean		56.1 mm	54.4 mm	58.1 mm
range		43 67	41 - 63	50 — 70
standard deviation		5.7	6.8	6.3
SHAPE ON BASE OF T	ERM	INAL LEAFLET		
		rounded	rounded	obtuse
TERMINAL LEAFLET V	VIDTH			
mean		36.4 mm	32.3 mm	31.0 mm
range		29 - 42	26 — 40	25 - 38
Standard deviation		3.5	3.9	3.6
THORN LENGTH	•			
mean		7.92 mm	8.12 mm	8.2 mm
range		6 - 10	7 — 9	7 — 10
standard deviation		1.0	0.7	0.8
THORN SHAPE				
HOUNT SHAFE		flat/concave	deep concave	flat/concave
upper side				
		flat/concave	deep concave	flat/concave
upper side		flat/concave	deep concave	flat/concave
upper side lower side		flat/concave	deep concave	flat/concave
upper side lower side SEPAL LENGTH				

#### Morphology — See comparison tables.

This variety is a bedding rose with a tall upright growth habit producing clusters of semi double, dark red, flat-convex flowers in clusters of 3 to 10. Flowers of 'Hans Christian Andersen' are smaller than 'Satchmo' and a similar colour but the petals have no undulations. ('Bloomin Easy' is a paler colour.) The petals of 'Hans Christian Andersen' have a small (7mm) vellow basal spot on the inside and outside surfaces. ('Satchmo' and 'Bloomin Easy' have none.) Stamen filaments are bronze, styles are red and stigmas are below the level of the anthers. Bud shape is ovate. Fragrance is weak. Sepal extensions are moderate. Thorns are few on the pedicel and concave on the stems. The terminal leaflet base is rounded and the leaflet is convex in cross section. (The terminal leaflets in both 'Satchmo' and 'Bloomin Easy' are concave in cross section and 'Satchmo' has an obtuse terminal leaflet base.) See also colour photograph fig. 10.

## KANGAROO PAW (Anigozanthos hybrid)

Variety: 'Lemon Whizz'. See fig. 11 in colour section. Application No. 90/099

Accepted: 10 October 1990

Applicants: R Trimble & S Membrey of Facey's Nursery Pty Ltd, Five Ways, Victoria.

#### Diagnosis

'Lemon Whizz' is a dwarf compact kangaroo paw with upright leaves, perianth tubes flared distally and with lobes half reflexed, the stigma at a higher level than the anthers. This variety is distinct from all others in having the following combination of characters: medium green, upright, slightly pubescent leaves; a light green perianth tube covered with light yellow hairs and a light yellow ovary covered with light yellow hairs; anthers arranged in a transverse arc.

#### Varieties Used for Comparison

'Bicentennial' the parent plant and 'Solace' being closest in colour of available varieties.

#### **Comparative Growing Trial**

All characteristics and comparisons are from comparative growing trials conducted at Five Ways in south-eastern Victoria. Plants of 'Lemon Whizz' and 'Bicentennial' were propagated by division and 'Solace' by tissue culture. Twenty plants of each variety were grown in an unheated polythene house in 125mm pots in a standard potting mixture. Measurements were taken in July 1991 when plants were seven months old, on twenty plants of 'Lemon Whizz' and 'Bicentennial' and on three plants of 'Solace'.

#### Origin

'Lemon Whizz' arose as a chance sport found in a population of tissue cultured 'Bicentennial' [(A. humilis x A. bicolor) x A. flavidus]. Selection was on the basis of flower colour. Subsequent plants have been propagated asexually by division and tissue culture.

#### Morphology — see comparative tables.

'Lemon Whizz' differs from 'Bicentennial' in the following characters: 'Bicentennial' is taller and much more spreading in habit with wider leaves and longer and wider perianth

tubes. The hairs on the ovary and tube are dark red (RHS 53A) in 'Bicentennial' but yellow (RHS 10B) in 'Lemon Whizz'. In 'Solace' the colour of the ovary is also yellow (RHS 6A) but the presence of orange hairs (RHS 33B) gives the ovary an overall orange yellow colouring. 'Solace' has dark red hairs (RHS 53A) at the apex of the tube which are absent in 'Lemon Whizz'. See also colour photograph fig. 11.

## Table of Comparison of Kangaroo Paw Varieties

	'Lemon Whizz'	* 'Bicentennial	* 'Solace'
PLANT HEIGHT			
mean	53 cm	64 cm	_
range	41 - 61	58 74	
standard deviation	5	5	
NUMBER OF INFLORESC	ENCES PER PLANT		<u>.</u>
mean	35	39	_
range	9 — 65	25 — 52	
standard deviation	16	7	
LEAF LENGTH (the longes	st leaf arising from	the longest stem)	
mean	217 mm	242 mm	_
range	162 — 260	193 — 304	
standard deviation	31	31	
LEAF WIDTH (the same le	eaf folded)		
mean	11 mm	13 mm	_
range	9 — 13	10 — 15	
standard deviation	1	1	
NUMBER OF FLOWERS F	PER INFL ORESCEN	re .	
mean	13	16	_
range	9 <del></del> 17	11 — 20	
standard deviation	2	3	
PERIANTH (FLORAL) TUB			
mean	39 mm	45 mm	_
range	37 — 42	43 — 47	
standard deviation	2	1	
PERIANTH TUBE WIDTH			
mean	18 mm	22 mm	_
range	15 — 20	20 — 24	
standard deviation	1	1	
PERIANTH TUBE COLOUI	R		
colour	light green		nedium green
RHS No.	146C	139C	148B
PERIANTH TUBE HAIRS			orange &
colour	light yellow	dark red	dark red
RHS No.	10B	53A	33B & 53A
OVARY			
colour	light yellow	dark red	yellow
RHS No.	10B	53A	6A
HAIRS ON OVARY			
colour	light yellow	dark red	orange
	10B	53B	33B ັ

## SOYBEAN (Glycine max)

Variety: 'Oxley'. See fig. 12 in colour section.

Application No. 91/019

Application Received: 4 March 1991

Applicant: Department of Agriculture of New South Wales.

Australian Agent: Pacific Seeds Pty Ltd of Toowoomba, Queensland

Diagnosis

This variety is a white-flowered soybean with a determinate growth habit and green hypocotyl, bearing tan pods with brown pubescence. It is distinct from known varieties in having the following combination of characters: spherical seed with a shiny yellow coat, shiny lustre and a black hilum; resistance to races 1, 4 and 15 of *Phytophthora* root rot.

#### Varieties used for comparison

'Forrest', 'Reynolds', 'A5474', 'A5939' and 'A6520' being other determinate varieties of similar maturity.

**Comparative Growing Trials** 

All characteristics described below are from irrigated comparative growing trials sown at the Agricultural Research Station, Narrabri in December 1989. The soil type is a grey cracking clay typical of the irrigated areas of northern and central NSW. The trial was a randomised complete block design with three replicates, plot size was 11m x 4m with rows spaced 100 cm apart planted at a density of 30 seeds per metre. Measurements are from plants selected at random from the centre two rows. Flowering and maturity were measured three times weekly. Harvested seed from the centre two rows was evaluated for seed weight, oil and protein content. Phytophthora root rot resistance was determined by hypocotyl inoculation with reference fungal isolate conducted at Department of Primary Industries Pathology Laboratory Toowoomba, Queensland by M Ryley using routine soybean pathology procedures. A weft of fungal mycellium is inserted into an incision in the lower stem of a 7-10 day old seedling. Seedlings are then incubated at 26°C for 3-4 days with 14 hour light, 10 hour dark photoperiod, after which reaction is assessed.

#### **Table of Comparison of Soybean Varieties**

	'Oxley'	* 'Forrest'	* 'Reynolds'	* 'A5474'	* 'A5939'	* 'A6520'
DAYS TO FLOWERIN	G					
mean	53.3	53.0	54.0	54.0	53.3	54.8
Standard error variet	y mean = 0.5 leas	t significant difference (F	0 < 0.01 = 1.90			
DAYS TO MATURITY						
mean	133.2	135.2	136.2	127.4	132.6	141.0
Standard error variet	y mean = 1.6 leas	t significant difference (F	P < 0.01) = 6.06			
MATURE PLANT HEI						
mean	97.6 cm	90.4 cm	95.1 cm	89.1 cm	120.6 cm	93.1 cm
Standard error variet	y mean = 3.0 leas	t significant difference (F	? < 0.01) = 11.37			
HYPOCOTYL COLOU						
	green	green	green	green	purple	purple
FLOWER COLOUR	white	white	white	white	purple	purple
PUBESCENCE COLO	UR					
	brown	brown	grey	brown	brown	brown
POD COLOUR	tan	tan	tan	brown	tan	tan
PHYTOPHTHORA RO	OT ROT					
race 1	resistant	susceptible	resistant	resistant	resistant	resistant
race 4	resistant	susceptible	not known	not known	not known	not known
race 15	resistant	susceptible	resistant	not known	not known	not known
HILUM COLOUR	black	black	buff	black	black	black
100 SEED WEIGHT						
mean	14.4 g	13.6 g	13.8 g	16.0 g	13.8 g	13.4 g
Standard error variety	mean = 0.4 leas	t significant difference (P	< 0.01) = 1.52			_
OIL CONTENT						
mean	22.9 %	23.6 %	21.4 %	23.0 %	23.1 %	22.9 %
Standard error variety	y mean = 0.2 leas	t significant difference (P	< 0.01) = 0.76			
PROTEIN CONTENT						
mean	41.0 %	39.8 %	43.9 %	40.9 %	41.2 %	40.1 %
Standard error variety	v mean = 0.2 least	t significant difference (P	< 0.01) = 0.76			

#### Origin

'Oxley' was developed between 1982 and 1990 by Dr I. A. Rose of Department of Agriculture, Narrabri, New South Wales. 'Oxley' was derived from the crossing of two unnamed inbred lines using a pedigree single seed descent method. The variety was formed as the progeny of a single F4 plant. 'Oxley' has the pedigree 'Forrest' / 'Dodds' // 'Essex' / 'Tracy'. Field testing commenced in the F5 generation and lines were evaluated for maturity, yield, disease resistance and seed composition.

Morphology — see comparison tables

'Oxley' has ovoid leaves, spherical seeds, a shiny yellow seed coat and yellow cotyledons, as do 'Forrest', 'Reynolds', 'A5474', 'A5939' and 'A6520'. 'Oxley' is distinct from 'A5939' and 'A6520' in having white flowers and green hypocotyls in contrast to purple flowers and hypocotyls for 'A5939' and 'A6520'. 'Oxley' has tan pods whereas 'A5474' has brown pods. 'Oxley' is distinct from 'Reynolds' in having brown pubescence and black hilum whereas 'Reynolds' has grey pubescence and buff hilum. 'Oxley' is distinct from 'Forrest' in the distribution of hilum pigment being narrower in 'Oxley' and broad in 'Forrest'. 'Oxley' has resistance to races 1, 4 and 15 of Phytophthora root rot whereas 'Forrest' is susceptible to races 1, 4 and 15. 'Reynolds' is resistant to races 1 and 15 and its reaction to race 4 is not known. 'A5474', 'A5939' and 'A6520' have resistance to race 1 and those varieties' reactions to races 4 and 15 are not known. See also colour photograph fig. 12.

### FIELD PEA (Pisum sativum)

Variety: 'Bonzer' See fig. 13 in colour section.

Application No. 91/054

Application Received: 9 May 1991

Applicant: Daratech Pty Ltd, of Melbourne, Victoria.

Diagnosis

'Bonzer' is a white flowered semi-dwarf and semi-leafless erect-growing field pea. It is distinct from known varieties in having the following combination of characters: long internode below the first flowering node; an intermediate flowering date; medium-large, globular seed; translucent white seed coat; yellow cotyledons.

Varieties used for comparison

'Dinkum' and 'Bluey', two white-flowered semi-leafless varieties, and 'Buckley', also a white-flowered variety.

**Comparative Growing Trials** 

All characteristics described below are from comparative growing trials conducted at the Plant Breeding Centre, Victorian Institute for Dryland Agriculture at Horsham in north-western Victoria in 1988, 1989 and 1990. In 1988, plots were sown on 28 June in a randomised block design with four replications and a plot density of 50 plants per square metre. Measurements were made on 20 plants (five from each plot) taken at random. In 1989, plots were sown on 20 June in a non-replicated trial at a plant density of 50 plants per square metre. Measurements in this trial are from 20 plants taken randomly from each plot. The 1990 plots were sown on 22 June in a randomised block design with two replications, using seed from both the 1988 and

1989 seed sources, and measurements were made on 20 plants randomly taken from each plot.

Origin

The breeder is the Grain Legume Breeding Group of the Victorian Institute for Dryland Agriculture (VIDA). 'Bonzer' is derived from a convergence crossing strategy. It is the single plant progeny selected from an F2 population arising from a cross between an F3 and an F4 line, which were each derived from a single plant selection obtained in F2 and F3 generations respectively. The final cross was made in 1982. The seed parent results from crosses between accessions of the varieties 'Dun', 'PS368' and 'Viktoria Dippes Gelbe', and the pollen parent from crosses between accessions of 'Dun', 'L58' and 'Viktoria Dippes Gelbe'. Criteria used for selection were grain yield, early vigour and seed type, while combining the traits of semi-leafless and semi-dwarf plant type to give an erect growth habit.

Morphology — see comparison tables

'Bonzer', 'Bluey', 'Dinkum' and 'Buckley' are all white-flowered field pea varieties in which anthocyanin colouring is absent and pod curvature is slight. 'Bonzer', 'Bluey' and 'Dinkum' have erect growth habits and many, large tendrils per petiole while 'Buckley' has a spreading growth habit and few, small tendrils per petiole. Leaflets are absent in 'Bonzer', 'Bluey' and 'Dinkum' but present in 'Buckley'. The seeds of 'Bonzer', 'Bluey' and 'Dinkum' are globose with an occasional dimple while those of 'Buckley' are globose. 'Bonzer' is semi-leafless as are 'Dinkum' and 'Bluey' while 'Buckley' is not. The duration of flowering is short in 'Bonzer', 'Bluey' and 'Dinkum' but medium in 'Buckley'.

Flowering is medium in 'Bonzer', medium-early in both 'Bluey' and 'Dinkum' and early in 'Buckley'. 'Bonzer' is distinct from 'Bluey' in having yellow cotyledons whereas those of 'Bluey' are green. 'Bonzer' has a higher seed weight than 'Dinkum'. The pods of 'Bonzer' are mostly in an obtuse angled point. See also colour photograph fig. 13.

Agronomy

'Bonzer' is intended for cropping in low to medium rainfall (300-500 mm p.a.) temperate regions.

### Table of Comparison of Field Pea Varieties

	'Bonzer'	* 'Bluey'	* 'Dinkum'
PLANT HEIGHT (main br	anch)		
mean	60.1 cm	53.8 cm	53.7 cm
range	25 - 76	45 - 69	40 — 74
standard deviation	8.50	6.35	7.34
NUMBER OF NODES			
mean	19.8	20.0	18.8
range	14 — 24	12 — 25	14 — 24
standard deviation	2.40	3.07	2.43
INTERNODE LENGTH (be	elow first flower)		
mean	61.5 mm	50.3 mm	52.4 mm
range	48 — 85	40 — 75	35 — 77
standard deviation	14.18	11.65	9.24
significance		P<0.01	P<0.01
DAYS TO FIRST FLOWE	R		
mean	107.5	103.8	104.1
range	103 — 110	101 - 108	94 — 108
standard deviation	1.67	2.09	2.65
significance		P<0.01	P<0.01

#### Table of Comparison of Field Pea Varieties

(\* = variety used for comparison)

	'Bonzer'	* 'Bluey'	* 'Dinkum'
NODES TO FIRST FLOWER			
mean	13.8	13.3	12.9
range	9 — 17	6 — 16	6 — 17
standard deviation	2.84	2.17	2.03
NUMBER OF NODES WITH			
mean	5.4	6.4	5.9
range	8 — 0	4 — 10	3 — 10
standard deviation	1.41	1.81	1.47
PEDUNCLE LENGTH (1st p	odding node)		
mean	67.4 mm	59.2 mm	57.3 mm
range	52 — 88	<b>45</b> — <b>69</b>	45 — 85
standard deviation	14.38	8.36	11.00
POD LENGTH (1st flowerin	g node)		
mean	75.2 mm	66.5 mm	66.0 mm
range	66 — 91	52 — 86	47 — 78
standard deviation	13.28	10.22	7.49
significance		P<0.05	P<0.01
POD WIDTH			
mean	13.8 mm	12.6 mm	12.6 mm
range	12 — 17	10 — <b>1</b> 6	9 — 15
standard deviation	2.58	1.67	1.30
NUMBER OF OVULES PER	POD		
mean	6.9	6.7	7.0
range	4 — 8	5 - 8	5 9
standard deviation	1.38	0.76	0.90
TESTA COLOUR (dry seed)			
colour	white	white	white
RHS No.	159B	138D	159B
COTYLEDON COLOUR (dry	seed)		
colour	Yellow	Green	Yellow
RHS No.	17B	137C	17B
WEIGHT PER 100 SEEDS (	6 samples at 1	1% moisture)	
mean	22.6 g	21.6 g	19.6 g
range	22.3 - 22.8	21.3 — 22.0	19.0 - 20.0
standard deviation	0.16	0.24	0.39
significance	••		P<0.01
SEED WIDTH (100 seeds)			
mean	6.1 mm	6.3 mm	5.7 mm
range	5.2 — 6.8	5.4 — 7.1	5.0 — 6.6
	0.31	0.33	0.40
standard deviation	0.51	0.00	

### PIMELEA (Pimelea ferruginea)

Variety: 'Pink Bouquet' See fig 14 in colour section.

Application No. 91/057

Application Received: 13 June 1991

Applicant: Mr George Lullfitz, of Lullfitz' Nursery,

Wanneroo, Western Australia.

Diagnosis

This variety is a bushy shrub with oval, glossy leaves arranged in two pairs of opposite rows. It is distinct from known varieties in having the following combination of characters: variegated foliage which is green with pale yellow margins, compact growth habit, short internodes.

#### Varieties used for comparison

'Bonne Petite' being the parent and the closest known variety.

#### **Comparative Growing Trials**

All characteristics described below are from comparative growing trials conducted at Wanneroo, Western Australia from September 1990 to May 1991. Measurements are from 10 plants of each variety using plants aged 8 months. Plants were propagated from cuttings and grown in the open in 140 mm standard plastic pots. The pots contained a red loam mixed with jarrah sawdust, washed white sand, medium grade pine bark and slow release fertilisers to supply Nitrogen and trace elements.

#### Table of Comparison of Pimelea Varieties

(\* = variety used for comparison)

	'Pink Bouquet'	* 'Bonne Petite'
LEAF COLOURS		
Margins	pale yellow	medium green
RHS No.	154B-D	141A
Midzone	medium green	medium green
RHS No.	141A	141A
EAF LENGTH (leaves 1	0 cm. from a growing t	ip)
mean	8.0 mm	10.7 mm
range	6 - 9	10 — <b>14</b>
standard deviation	0.8	0.8
LEAF WIDTH (leaves 10	cm. from a growing tip	)
mean	3.9 mm	4.9 mm
range	3.0 - 4.0	4.0 - 5.0
standard deviation	0.3	0.3
NTERNODE LENGTH (b	etween 10th and 11th	leaves)
mean	3.1 mm	5.7 mm
range	2 — 4	4 — 7
standard deviation	0.5	0.9
STEM COLOUR (mature	stems)	
colour	dark brown	light brown
RHS No.	200A	200D

#### Origin

This variety arose as a sport from the parent variety 'Bon Petite'. 'Pink Bouquet' was selected for development on the basis of foliage colours and propagated asexually through four generations.

#### Morphology — see comparison tables

'Pink Bouquet' produces a profusion of pink flowers in terminal heads in spring. Foliage is variegated, a medium green at the midzone, corresponding to RHS 141A and pale yellow at the margins, corresponding to RHS 154B in new growth and RHS 154D in mature leaves. In contrast, the foliage of 'Bonne Petite' is medium green at both midzone and margins, corresponding to RHS 141A. 'Pink Bouquet' has leaves which are shorter and narrower than those of 'Bonne Petite' and the internodes of 'Pink Bouquet' are approximately half the length of those of 'Bonne Petite'. The stems of 'Pink Bouquet' are dark brown, corresponding to RHS 200A whereas those of 'Bonne Petite' are light brown, corresponding to RHS 200D. See also colour photograph fig. 14.

## **ARIZONA CYPRESS**

(Cupressus glabra)

Variety: 'Limelight' See fig. 15 in colour section.

Application No. 91/096

Application Received: 28 May 1991.

Applicant: Peter and Ruth Donnelly, of Matcham, New

South Wales.

**Diagnosis** 

This variety is a light yellow to lime-green compact cypress. It is distinct from known varieties in having the following combination of characters: acutely angled, slightly arching (concave) branches giving an erect and slender growth habit; branchlets with a short internode length; and light yellow to lime-green foliage all year.

Varieties used for comparison

The normal grey-green form of *Cupressus glabra* being the parent plant and *Cupressus glabra* 'aurea' (the golden form), being a cypress close in colour.

**Comparative Growing Trials** 

All characteristics described below are from comparative growing trials conducted at Matcham NSW from plants grown outdoors in 20 cm diameter pots. Twenty plants of each variety were propagated in September 1990 and assessed in April 1991. Potting mix consisted of sand,

#### Table of Comparison of Cupressus Varieties

(\* = variety used for comparison)

	'Limelight'	* C. glabra 'aurea'	* C. glabra common form				
BRANCHLET UPPER SUR	BRANCHLET UPPER SURFACE — SUMMER COLOUR						
colour RHS CHART No.	yellow 8B	yellow green 151A	grey green 189B				
BRANCHLET LOWER SUF	RFACE — SUMM	IER COLOUR					
colour RHS CHART No.	yellow green 154B	green 144A	grey green 189B				
DISTANCE BETWEEN BR	ANCHLETS						
mean range standard deviation no. measured	13.5 mm 3 — 30 5.46 113	23.2 mm 10 — 55 11.13 97	22.2 mm 5 — 50 12.32 103				
ANGLE OF BRANCHLETS	TO MAIN STEM						
mean	46.50	<b>85</b> 0	<b>35</b> <sup>0</sup>				
range	15 — 75	25 — 1 <b>3</b> 0	10 — 70				
standard deviation no. measured	13.75 71	26.55 46	15.23 79				
STEM DIAMETER — 30 c	m from apex	****					
mean	4.6 mm	4.1 mm	3.8 mm				
range	4 — 5.5	3.5 5	3 - 5				
standard deviation	0.44	0.42	0.78				
no. measured	15	15	10				
PLANT WIDTH							
mean	36.7 mm	53.4 mm	28 mm				
range	31 — 43	45 - 66	20 - 36				
standard deviation	3.16	5.44	4.37				
no. measured	17	15	18				

pinebark and composted sawdust fertilised with a slowrelease plant food. Measurements are from branchlets sampled at random from each of the 20 plants in the trial.

#### Origin

This variety arose from a chance seedling on the applicants property at Matcham in 1986. It was selected on the basis of foliage colour and growth characteristics and has been propagated asexually for subsequent generations to form the variety 'Limelight.'

Morphology — see comparison tables.

'Limelight' has a narrow conical shape and a compact growth habit, due to its vertical branching characteristic and short inter-branchlet spacing. In this, 'Limelight' resembles the more narrow forms of the normal coloured *C. glabra* and distinguishes it from *C. glabra* 'aurea' which has a more open, sideways branching habit resulting from a larger inter-branchlet interval and flat to convex branching angle to the main stem. The upper and lower branchlet surfaces of 'Limelight' distinguish it from normal coloured *C. glabra* and are also paler than the branchlets of *C. glabra* 'aurea'.

#### **BORONIA**

(Boronia pinnata)



Variety: 'Golden Nola' Application No. 91/062

Received: 28 June 1991

Applicant: Mr Egon Demuth of Kingfern Natives, Albion

Park, NSW

#### Diagnosis

This variety is a yellow leaved compact shrub. It is distinct from known *Boronia* varieties in having the following combination of characters: pale yellow leaves; bright red stems; pink flowers; late flowering; and a compact growth habit.

Varieties used for comparison

Boronia pinnata, common form, being the species from which 'Golden Nola' originated.

**Comparative Growing Trials** 

The characteristics and comparisons below are described from growing trials conducted at Kingfern Natives, Robertson, NSW between 1989 and 1991. All plants were propagated from cuttings and grown outdoors.

The measurements presented for comparison were taken in May 1991 from a sample of ten plants of each variety, chosen at random from over 100 plants propagated as cuttings in April 1990 and potted in 200 mm containers in November 1990. Growing medium was a sand/bark/peat mix with slow release fertiliser with additional overhead spray irrigation as required.

Also included in observations were thirty five 'Golden Nola' plants with three of the *B. pinnata* common form growing in the field since 1989, in rows spaced 0.5 metres, with a 0.8 metre interval, in local sandy soil with a polythene mulch.

#### Origin

'Golden Nola' arose on the applicant's property as a sport mutation of *B. pinnata* in 1986. The original mutation was propagated by stem cutting to form the variety 'Golden Nola'. The original selection was on the basis of leaf and stem colour differences which have persisted through repeated cutting generations and cultivation in the open ground and in containers with different growing media.

#### Morphology — see comparison tables

'Golden Nola' has a more compact growth habit, as indicated by plant height, and its leaves are shorter than the *B. pinnata* common form. Leaf colours in 'Golden Nola' are pale to clear yellow and stems are red, whereas leaf colour in the *B. pinnata* common form is pale green and stems are brownred.

The flowers of 'Golden Nola' are rose pink, open-petalled, about 2 cm in diameter, as found in the *B. pinnata* common form. Flowering time was later in 'Golden Nola' than in the *B. pinnata* common form under trial conditions. See also colour photograph fig. 16.

#### **Table of Comparison of Boronia Varieties**

(\* = variety used for comparison)

	'Golden Nola'	* B. pinnata common form
EAF LENGTH		
nean	32.0 mm	35.4 mm
ange	30—37	28-39
standard deviation	2.2	3.2
EAF COLOUR	yellow green	green
RHS No	13B	147A with 83A
STEM COLOUR	red	purple-red
HS No	53 B-C	183 A
LANT HEIGHT		
nean	29.9 cm	38.4 cm
ange	28.2-32.2	32.1-46.8
tandard deviation	1.1	4.5
LOWERING TIME	September	August
	<ul> <li>October</li> </ul>	<ul> <li>September</li> </ul>

#### **MANDARIN**

(Citrus reticulata hybrid)

Variety: 'Sunset' See fig. 17 in colour section.

Application No. 91/058 Received: 13 June 1991

Applicant: CSIRO Division of Horticulture of Merbein Victoria and Department of Agriculture of Irymple, Victoria

#### Diagnosis

This variety is an edible hybrid between a mandarin and a tangor. It is distinct from known varieties in having the following combination of characters: fruit maturing early to mid-season with a thin, easily detached rind and polyembryonic seeds few in number; thornless nucellar seedlings; medium lanceolate leaves with short deltoid narrow-winged petioles.

#### Varieties used for comparison

'Imperial' and 'Ellendale' being the parents and predominant Australian commercial varieties. Other varieties 'Hansen', 'Fewtrell', 'Kara', 'Emperor', 'Clementine', 'Dancy' and 'Murcott' were also compared in trials but are not presented below. A copy of the full data submitted is available through purchase of a copy of the application.

#### **Comparative Growing Trials**

Characteristics described below are mainly from comparative growing trials conducted under glass at Merbein, western Victoria between 1989 and 1991. Fifteen to twenty 5-node cuttings of each variety were struck in river sand. Three of the strongest plants of each variety were removed after 90 days to a standard potting mix in 11 litre pots and randomised on a glasshouse bench. Regular watering, weekly fertiliser and insecticide spray as required were applied. Three branches were removed from each plant at 12 months and all leaves measured. Data in tables are presented from 10 randomly selected leaves per plant.

Leaf extracts from plants held in CSIRO and NSW Dept. Agriculture arboretae were made for starch gel electrophoresis isozymic analysis. The technique for shikimic acid dehydrogenase was developed using electrode and gel buffers at pH 8.3. The electrode buffer was 0.19 M boric acid, 0.04 M lithium hydroxide and the gel buffer was 9 parts tris-citrate (0.05 M trizma base, 0.007 M citric acid) to 1 part electrode buffer. Electrophoresis was conducted at 3 — 5°C at 1 ma cm² gel cross section and variable voltage for 24 — 36 hours. The gel was stained using the method of Vallejos, (1983). (See references for other techniques.)

Further trials with topworked grafted trees, nucellar seedlings and seeds were also conducted and provide the basis for other observations on morphology. Complete data are available through purchase of a copy of the application.

#### Origin

'Sunset' arises from the controlled pollination of Mandarin (C. reticulata) 'Imperial' by Tangor (C. reticulata X C. sinensis) 'Ellendale' by Mr L Stafford of Dept. of Agriculture, Irymple Vic. in 1963. Buds of the progeny were selected by D. Maggs and D. Alexander of CSIRO in 1969. Buds were grafted to Severinia buxifolia seedlings and planted at Merbein, Vic. in 1975. The original seedling was subsequently destroyed. Evaluation and selection of this line continued by Mr I. Thornton (formerly Dept. Agriculture), Ms M. Edwards (Dept. Agriculture) and Dr S Sykes (CSIRO) under the code name 'CO34'.

#### Morphology — see comparison tables

'Sunset' produces oblate shaped fruits which occasionally possess a small navel and were, in trials, slightly larger and with a higher juice content but lower total soluble solids than 'Imperial'. Flesh of 'Sunset' fruit is orange on maturity. Rind is orange on maturity, loosely attached with a bumpy, pebbled surface.

'Sunset' has a more spreading growth habit and was less vigorous in growing trials than 'Imperial'. Leaf, flower and seed details are available with a copy of the application.

#### References

Torres A M, Soost R K, and Diedenhofen U (1978). Leaf isozymes as genetic markers in citrus. Amer. J. Bot. 65, pp869-891

#### Table of Comparison of Mandarin Varieties

(\* = variety used for comparison)

	'Sunset'	*'Imperial'	*'Ellendale'
SEASON MATURITY	early-mid	early	late
BRANCH ATTITUDE	semi-erect	erect	spreading
LEAF (lamina) LENGTH		-	
mean	102 mm	93 mm	89 mm
range	77 — 125	64 — 127	64 — 126
standard deviation	15	19	16
LEAF WIDTH			
mean	46 mm	39 mm	49 mm
range	30 - 58	26 — 54	27 — 75
standard deviation	8	8	11
LEAF (lamina) LENGTH /	WIDTH		
mean	2.2	2.4	1.9
range	1.8 — 2.9	2.1 - 3.3	1.6 — 2.4
standard deviation	0.3	0.3	0.2
LEAF SHAPE	lanceolate	lanceolate	elliptic
LEAF PETIOLE LENGTH			
mean	14.3 mm	14 mm	12 mm
range	8 — 21	9 — 25	6 - 20
standard deviation	3.5	4.3	3.1
LEAF PETIOLE WINGS	very narrow	narrow	narrow
EMBRYOS PER SEED (5 s	eeds per variety	germinating on a	gar)
	5.2	1	1

ISOZYME GEL ELECTROPHORESIS ANALYSIS					
	IDH	PGI 1	PGI 2	PGM	SDH
'Sunset'	ll	FF	FS	FF	FF
'Imperial'	1)	FF	FS	FF	FF
'Ellendale'	MI	FF	FF	FF	FS
'Stemp'	II	_	FF	_	FF
'Wallent'	MI	FF	FF	FF	FF
'Kinnow'	II	FF	FF	FF	FF
'Hickson'	II	FF	FF	FF	FS
'Burgess'	II .	FF	FF	FF	FF
'Scarlet'	11	FF	FF	FF	FF
'Murcott'	11	FF	FF	FF	FF
'Hansen'	II	FS	FF	FF	FF

Hanson					
'Dancy'	II	FF	FF	FF	DS
'Tankan'	ll l	FS	FF	FS	FS
'Kara'	II	FF	FF	FS	FF
'Emperor'	II	FF	FF	FS	FF
'King'	II	FF	FF	FS	MM
'Ladu'	Į.	FF	FF	FF	FF
'Algerian'	MI	FS	FF	FF	FF
'Thorny'	11	FF	FF	FF	FF
'Unshui'	H	FS	FF	FF	FF
'Jacobs special'	MI	FS	FF	FF	MS
'Parker'	MI	FS	FF	FF	MS
'Clementine'	MI	FS	FF	FF	FF
'Silverhill satsuma'	II	FS	FF	FF	FF
'Fewtrell'	N	FF	FF	FF	FF

#### Key

'Wilking

Letters refer to the isozyme band's speed of migration. In descending order: D (fastest), F, M, I and S (slowest)

FF

FF

IDH — isocitrate dehydrogenase following the method of Torres et al., (1982) PGI 1 and 2 — phosphoglucose isomerase, two distinct banding areas, following the method of Torres et al, 1978

PGM — phosphoglucose mutase following the method of Torres et al., (1978) SDH — shikimic acid dehydrogenase. See comparative growing trials.

Torres A M, Soost R K, and Mau-Lastovicka, T (1982). Citrus isozymes: genetics and distinguishing nucellar from zygotic seedlings. J. Hered. 73, pp 335-339

Vallejos C E (1983). Enzyme activity staining. P.469 — 516 in S D Tanksley and G T J Orton (eds). Isozymes in plant genetics and breeding. Part A. Elsevier, Amsterdam.

### 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.

#### **HARDENBERGIA**

(Hardenbergia violaceae)

Applicant: S Membrey & R Trimble, of Five Ways, Victoria

'Purple Falls' Application No. 91/055

Accepted: 1 July 1991

### **ALSTROEMERIA** (Alstroemeria hybrid)

Applicant: Parigo Horticultural Co., of United Kingdom Agent in Australia: R, A & J de Wit, of Silvan South, Victoria

'Golden Delight' Application No. 91/059 Accepted: 2 July 1991 'Orange Delight' Application No. 91/060

Accepted: 2 July 1991

'Cavalier'

FF

IS

Application No. 91/061 Accepted: 2 July 1991

## **ALSTROEMERIA**

(Alstroemeria hybrid)

Applicant: Konst Alstroemeria BV of Nieuwveens, Holland Agent in Australia: Maxiflora Pty Ltd, of Monbulk, Victoria 'Sangria'

Application No. 91/063 Accepted: 8 July 1991

#### **BARLEY**

(Hordeum vulgare)

Applicant: New Farm Crops Ltd, of Dubbo, NSW

'Ashton' commercial synonym: 'Cask'

Application No. 91/064 Accepted: 5 July 1991

#### **FEIJOA**

(Feijoa sellowiana)

Applicant: Mr J Duffy, of Numurka, Victoria

'Duffy'

Agent: Agrisearch Services Pty Ltd, Orange, NSW

Application No. 91/065 Accepted: 16 July 1991

#### **GRAPE**

(Vitis vinifera)

Applicant: Sun World Inc, of Indigo, California Agent in Australia: F B Rice & Co, of Balmain, NSW

'Sugraone'

Application No 91/066 Accepted 18 July 1991 'Sugrafive'

Application No. 91/067 Accepted: 18 July 1991

#### **WAX FLOWER**

(Chamelaucium hybrid)

Applicant: NSW Department of Agriculture & Fisheries Agent in Australia: Vantree Pty Ltd of Flemington, NSW

'Supernova'

Application No: 91/032 Accepted: 23 July 1991 'Moonstruck'

Application No: 91/033 Accepted: 23 July 1991

'Plumwhite'

Application No: 91/034 Accepted: 23 July 1991

'Earlybird'

Application No: 91/035 Accepted: 23 July 1991

'Whitefire'

Application No: 91/036 Accepted: 23 July 1991

'Galaxy'

Application No: 91/037 Accepted: 23 July 1991

'Moonstar'

Application No: 91/045 Accepted: 23 July 1991

## GERALDTON WAXFLOWER

(Chamelaucium uncinatum)

Applicant: A.J. Newport & Son Pty Ltd, of Winmalee NSW

'Niribi'

Application No: 91/071 Accepted: 14 August 1991

#### **GREVILLEA**

(Grevillea variegata)

Applicant: Redlands Greenhouses, of Redlands, QLD

'Honey Wonder'
Application No. 91/068
Accepted: 1 August 1991

#### **PLUMCOT**

(Prunus persica)

Applicant: Plum-cot Incorporated, of California, USA Agent in Australia: F B Rice & Co of Balmain, NSW

'Snow Diamond' Application No: 91/026

#### **STRAWBERRY**

(Fragaria x ananassa)

Applicant: Edmund Casey, Minister for Primary Industries,

of Brisbane QLD
'Redlands Horizon'
Application No: 91/072
Accepted: 14 August 1991

## **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.

A person submitting a formal objection 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.

Comments: 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.

All formal objections and comments relating to the above applications must be lodged with the Registrar by close of business on **31 March 1992**.

#### **Provisional Protection**

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

<u>Name</u>	Application No.
'Snow Diamond'	91/026
'Supernova'	91/032
'Moonstruck'	91/033
'Plumwhite'	91/034
'Earlybird'	91/035
'Whitefire'	91/036
'Galaxy'	91/037
'Moonstar'	91/045
'Bonzer'	91/054
'Purple Falls'	91/055
'Limelight'	91/056
'Pink Bouquet'	91/057
'Sunset'	91/058
'Golden Delight'	91/059
'Orange Delight'	91/060
'Cavalier'	91/061
'Golden Nola'	91/062
'Sangria'	91/063
'Ashton'	91/064
'Duffy'	91/065
'Sugraone'	91/066
'Sugrafive'	91/067
'Honey Wonder'	91/068
'Niribi'•	91/071
'Redlands Horizon'	91/072

## Weeping Cherry (Prunus subhirtella)

'Winter Sun' In Vol. 3 No. 4, December 1990, pp 31, photograph of 'Winter Sun' is upside-down. Editors error.

## Geraldton Wax Flower (Chamelaucium uncinatum)

'Pearl Buttons' In Vol. 4 No. 2, June 1991, pp 15, the photograph entitled 'Pearl Buttons' is of 'Pristine' and should be interchanged with the photograph on p16. Editors error.

## Geraldton Wax Flower (Chamelaucium uncinatum)

'Pristine' In Vol. 4 No. 2, June 1991, pp 16, the photograph entitled 'Pristine' is of 'Pearl Buttons' and should be interchanged with the photograph on p15.

## Variations to Applications

The following variations to applications now apply:

## **Applications Withdrawn**

The following applications have been withdrawn at the request of the applicant. Provisional protection no longer applies to the following varieties:

Name	Application No.
'Afterglow'	90/132
'Cheyenne'	90/086

## Corrigenda

## Rose (Rosa hybrid)

'Inter moto' In Vol. 4 No. 1, March 1991, replace all references to 'Intermotto' with 'Inter moto'. Agents error.

### **APPENDIX 1**

#### **Fees**

These rates also apply to submissions in progress.

Basic PVR Fees	\$
Application Examination of application Certificate of PVR Total Basic Fees	400 1400 250 2050
Annual Renewal Fee	250
Other Fees	\$
Variation to application Copy of application Lodging an objection Copy of objection Compulsory license Transfer of rights Issue of publications (first 10 pages,then50c/page)	70 70 200 70 140 140 8
Other PVR work,rate per hour	70

#### Payment of fees

All cheques for fees should be made payable to: 'The Collector of Public Moneys', but sent to the Plant Variety Rights Office.

The application fee must accompany the application at the time of lodgement otherwise processing of the application will be delayed pending payment of the prescribed fee.

There are three options available for the payment of the examination fee:

- · full payment can be made when the application is lodged;
- if the PVR Office is advised by the applicant in the application form to "proceed immediately" with the examination the full examination fee must be paid within three months of the application being lodged;
- should the applicant inform the PVR Office in the application to "proceed when advised", the applicant must pay 25% of the examination fee within 30 days of being notified that the application has been accepted and 75% on the date the applicant advises the PVR Office to proceed with the examination.

Applicants choosing payment option three above must, before the expiry of 12 months from the application date:

 either, advise the PVR Office to proceed with the examination and pay the balance of 75% of the examination fee,  or, apply for an extension of the 12 month period and pay a further 25% of the current examination fee. Reapplication for an extension and the payment of 25% instalments of current examination fee is required annually.

An application will be deemed inactive if, after three years of extensions, 100% of the examination fee has been paid and the PVR Office has not been advised to proceed with the examination. Inactive applications will be examined and, should they not fully comply with Section 26 of the PVR Act 1987, they will be rejected. Provisional protection will lapse, priority claims on that variety will be lost and should the variety have been sold, it will be ineligible for plant variety rights on reapplication.

Following the successful completion of the examination, including the public notice period, the applicant will be requested to pay the **certification** fee. Payment of the certification fee is a prerequisite to granting PVR and issuing the official certificate by the PVR Office.

## **APPENDIX 2**

## 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.

lan Aberdeen, Valley Seeds Pty Ltd, RMB 1480, Alexandra Vic 3714; 057 976203

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

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

ANU Plant Culture Facility, Australian National University, GPO Box 4, Canberra ACT 2601; 06 249 4158; Mr A S Carter

Paul Armitage, 15 Bonnie View Road, Croydon, VIC 3136;(bh) 03 756 7233; (ah) 03 877 6539

Keith Bodman, Redlands Horticultural Research Station, PO Box 327, Cleveland QLD 4163; 07 286 1488

Geoff Butler, Australian Cultivar Registration Authority, National Botanic Gardens, GPO Box 1777, Canberra ACT 2601; 06 267 1802

Chivers Computing & Agriculture, 3/258 Koorang Rd Carnegie VIC 3163; 03 5697538; lan Chivers.

**Colourwise Nursery**, PO Box 162, Glenorie, NSW, 2157; ph O45 666 177, fax 045 666 219; lan Collins

Colourwise Nursery Queensland, PO Box 14, Redlands Bay, QLD 4165; 07 206 8818; Stephen Collins

Jan Dekker, Tesselaar's Padua Bulb Nurseries, Monbulk Road, Silvan VIC 3795; 03 737 9305

**Dr. John Doran**, CSIRO, Division of Forestry & Forest Products, PO Box 4008, Queen Victoria Terrace, Canberra ACT 2600 John Fennel; QLD Department of Primary Industry Tasmania, PO Box 303, Devonport, TAS 7310; 004 240 233

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

**Dr Roger Kirkham,** Department of Agriculture and Rural Affairs, Potato Research Station Private Bag, Healesville VIC 3630; 059 629218

Agrisearch Services Pty Ltd, PO Box 972, Orange, NSW, 2800; 063 624539, MJ Hood; PO Box 1387, Shepparton VIC 3630; 058 212021, Les Mitchell, David McDonald; also at Ridgehaven, SA; Narrabri, NSW; Toowoomba, Mackay and Innisfail, QLD.

Graeme McGregor, Department of Agriculture and Rural Affairs, Potato Research Station, Private Bag, Healesville VIC 3630; 059 629218

Dr Geraldine McGuire, PO Box 3230, Loganholme, QLD 4127; 07 801 2929

**Dr Neville Mendham,** Department of Agricultural Science, University of Tasmania, GPO Box 252C, Hobart TAS 7001; 002 202 598

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.

Paradise Plants, RMB 2117, Kulnura, NSW, 2250; 043 76 1330; lan Paananen

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

**Dr Malcolm Ryley,** QLD Department of Primary Industries, Tor Street, Toowoomba QLD 4350; 076 314200

Robert Boden & Associates, 36 Carstensz Street, Griffith ACT 2603; 06 295 7720; Robert Boden.

Scholefield Robinson Horticultural Services Pty Ltd, PO Box 145, Kingswood, SA 5062; O8 373 2488, or 364 2071; Dr P Scholefield/Dr B Robinson

Australian Turf Grass Research Institute, PO Box 190 Concord West NSW 2138; O2 7361233; Ian McIver/Alexandra Shakesby.

Turfgrass Technology, PO Box 416 Seaford VIC 3198; 03 786 3300; Terry Woodcock, Michael Rubinson, J Neylan.

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

Rob Van Der Staay-PO Box 41, Moonah TAS 7009; 002 284 622

Jim Webb, 86 Johnson Street, Wagga Wagga NSW 2650. State Departments of Agriculture and CSIRO may do trials on a fee for service basis for some varieties.

#### Overseas

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

M. Rene Royon, Conceil en Licences, 128 Les Bois de Font Merle, 06250, Mougins, France.

#### **Photographic Services**

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

#### LETTERS TO THE EDITOR

The editor of the Plant Varieties Journal will accept for publication, 'letters to the editor'.

Letters to the editor should aim to inform readers about plant varieties. The subject matter can be about breeding, genetics, new propagation methods, results of cultivar trials, trends in the market place, legal issues or injustices caused by PVR.

Readers are encouraged to continue to write letters to the Registrar on any matter concerning PVR. Letters to the Registrar in the normal course of office business would, of course, not be considered for publication in the Journal. Letters to the editor should be, therefore, clearly addressed to 'The Editor'.

Provision of information about plant varieties in general will be complementary to the Journal's main functions of:—

- informing the public about plant variety rights and new plant varieties in the PVR scheme
- providing an opportunity for both objections and comments about varieties for which rights have been applied.

#### Style and length of letters to the editor

Letters should be typewritten, double-spaced, concise, informative and not more than 1000 words in length. References should use the Oxford (number) system of citations to literature. Figures, tables and captions to figures and tables should all be provided on separate sheets. The list of references to publications cited in the text should be numbered in the order they appear in the text. Only the name of the author, initials, date and abbreviated journal title, volume no., issue and first page of article referred to should be given in the reference list. For example:

1. Smith, J.T. (1986). Pl. Var. J. 3(2): 23

For convenience, letters for publication may be submitted on disc in Ascii, MS-Word or Wordstar.





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9 780644