

plant breeder's rights



A Guide for Horticulture Industries

Plant Breeder's Rights

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Know-how for Horticulture™



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Introduction

It is increasingly common for horticulture varieties in Australia to be protected by Plant Breeder's Rights (PBR). For example, by February 2008 there were 36 apple varieties, 115 *Prunus* varieties (peaches, plums, nectarines, cherries), 19 *Citrus* varieties, 57 potato varieties and 48 *Alstroemeria* varieties protected by PBR in Australia.

The commercial use of protected varieties can directly influence profits and market opportunities. To maximise these benefits, it is critical that breeders, growers, licensees and others involved in the horticulture industries understand the nature of intellectual property and are aware of their rights and obligations when they are using or purchasing protected plant varieties.

Plant Breeder's Rights is a form of intellectual property protection for breeders of new varieties. PBR began in Australia with the introduction of the *Plant Variety Rights Act 1987*. This Commonwealth Act of Parliament was then replaced by the *Plant Breeder's Rights Act 1994*. The PBR system aims to encourage the development of new plant varieties by providing a temporary monopoly for breeders, giving them the exclusive right to the new plant variety and therefore an opportunity to recoup the money they have invested in the research and development of the new variety.

Plant varieties can also be subject to other forms of intellectual property such as patents, copyright, confidential information and trade marks. Different obligations and rights are associated with each form of intellectual property. For example, if a plant variety is protected by a patent, users of the variety would not be able to save propagating material for their own use or use the variety in their plant breeding programs, in the same way that they could if the variety was protected by PBR. Thus, it is important to be aware of how the varieties are protected. While this booklet deals with PBR, a brief summary of patents, trade marks and confidential information is given in Appendix 1.

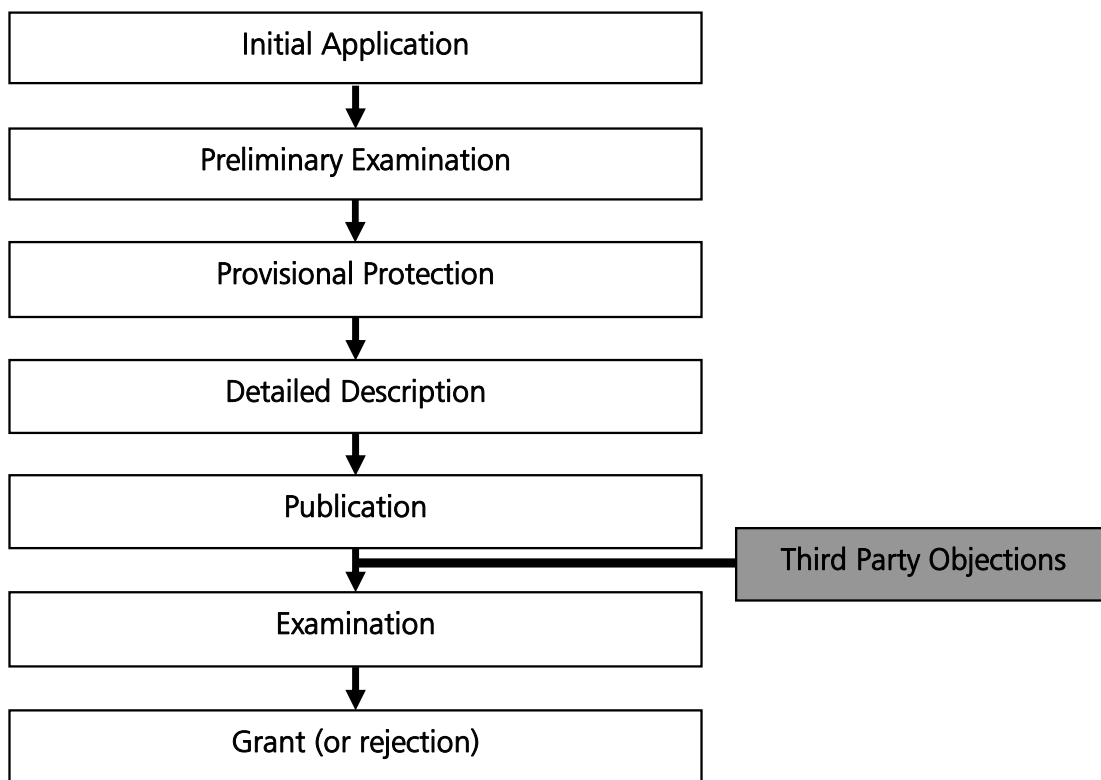
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Grant of Plant Breeder's Rights (PBR)

For a plant variety to be protected by PBR, applicants must go through an examination process to determine whether the variety complies with the requirements for protection. When granted, PBR protection is recognised throughout Australia.

Figure 1 sets out the steps of the application and examination process.

Figure 1: Steps in applying for PBR protection



The initial application for PBR protection is made to the PBR Office, in IP Australia.

Applications are accepted from:

- The original 'breeder' of a new variety;
- The employer of the original breeder if the breeder is an employee of an organisation;
- Two or more joint breeders; or
- A person who has acquired ownership from the original breeder.

In this context, as well as including traditional breeding practices, a 'breeder' is defined to include a discoverer of a plant variety together with its use in selective propagation so as to enable the development of a new plant variety.

The initial application must contain certain information, including a brief description of the variety (which may be accompanied by a photograph) and the manner in which the variety was bred.

After an application has been lodged, a preliminary examination is undertaken to ensure that:

- Similar applications have not already been lodged; and
- The plant variety is (prima facie) distinct from all other commonly known varieties.

If an application meets these criteria, it will be given 'provisional protection'. If unsuccessful, the applicant will be notified of the reasons for non-acceptance and given an opportunity to amend their application.

Within 12 months of an application being accepted for provisional protection, the applicant must provide a detailed description of the plant variety. The description must be in the approved form and contain particulars of the characteristics that distinguish the variety from other plant varieties the existence of which is a matter of common knowledge.

From July 1 2005 the description of the variety must be provided using the Interactive Variety Description System (IVDS) provided on the IP Australia website. The system is available for use by the Qualified Person (QP) who must be engaged by the Applicant to oversee the comparative trials. The QP must be accredited by the PBR Office.

A detailed description and a photograph of each variety are published in the *Plant Varieties Journal* (see Appendix 2 for examples of detailed descriptions). This provides third parties, whose commercial interests may be affected, an opportunity to raise objections if they

believe the application does not meet the criteria for protection. Objections must be lodged within 6 months of publication of the detailed description of the variety in the *Plant Varieties Journal*.

After the description has been published, the PBR Office then examines the application. If an application meets the necessary criteria, PBR protection is granted.

When granted, PBR protection lasts for:

- 25 years for trees and vines; or
- 20 years for all other plants.

After PBR protection has expired, the variety can be used by anyone (as long as the variety is not protected by other forms of intellectual property or by

contract between the PBR owner and the person wishing to use the variety).

The limited duration of PBR aims to ensure a balance between private and public interests.

Plant varieties are usually labelled to indicate that they are protected. To avoid confusion, standardised versions of the PBR logo and wording are used on labels (see Figure 2). Inadequate labelling of plants could reduce the effectiveness of the PBR owner's rights, as damages may be reduced by the Court if a person can show that they had no reasonable way of knowing that the variety was protected. If the variety is labelled properly then the infringing person is 'deemed' to be aware of the PBR.

Figure 2: PBR Logo



Unauthorised commercial propagation or any sale of seed of this variety is an infringement under the 'Plant Breeder's Rights Act 1994'

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Criteria for protection

To be protected, a variety must be:

- 'new';
- 'distinct';
- 'uniform'; and
- 'stable'.

If an application fails to comply with any of these criteria, protection will not be granted.

Importantly, the grant of PBR in a variety does not ensure the validity of the grant. A person whose interests are affected by the grant of PBR in a variety may apply for revocation of the right on the ground that the variety does not comply with one or more of these criteria.

Novelty ('New')

To be protected, a variety must be novel or 'new'. For the purposes of PBR law, a variety is new if plant material has not been exploited (eg sold, disposed of, or used commercially) within Australia with the breeder's consent more than one year before the date on which the application was lodged. It is also possible for the

novelty of a variety to be lost if there has been a sale or disposal outside of Australia more than six years before the application date in the case of trees and vines, or, in other cases, not more than four years before the lodgement date.

Distinct, uniform, and stable

These criteria are sometimes referred to as the 'DUS' requirements:

- A variety is 'distinct' if it is clearly distinguishable by one or more characteristics, which can be clearly described, from any other variety whose existence is a matter of common knowledge at the time of application.
- A variety is 'uniform' if it is sufficiently consistent in those characteristics that make it distinct. This means that nearly all individual plants among a population of the variety must bear the characteristics that make the variety distinct.
- A variety is 'stable' if it remains true to description after repeated propagation or reproduction.

Australia's PBR system relies on test growing to establish the distinctness, uniformity and stability of new varieties. The breeder or their agent carries out comparative trials, using specific technical guidelines, to

establish whether each new variety satisfies the necessary criteria. These trials must be supervised by a 'qualified person', who verifies the particulars given in the detailed description of the variety.

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Naming a new plant variety

Under the *Plant Breeder's Rights Act 1994*, both the name and synonym of a plant variety are protected. A synonym is an additional name which the applicant may also use to commercialise the variety in Australia (this must not be the same as a trade mark).

The Act imposes a number of limitations on plant variety names. In particular, the name must be a word or words (whether invented or not), to which may be added one or more letters or figures. Further, the name must not be:

- Likely to deceive or cause confusion (including confusion with the name of another plant variety of the same plant class);
- Contrary to law (for example by being a prohibited term under Australian legislation);
- Scandalous or offensive;
- A trade mark that is protected, or whose registration is being sought, under the *Trade Marks Act 1995* in respect of live plants, plant cells and/or plant tissues (see Appendix 1);

- The name of a natural person either living at the time of the application or who died within 10 years of the application (unless the person or their legal representative has given written consent); or
- The name of a corporation or other organisation (unless the corporation or other organisation has given its written consent).

In addition, the name must comply with the *International Code of Nomenclature for Cultivated Plants*. The Plant Breeder's Rights Office has developed some guidelines to assist in the naming of new varieties to ensure compliance with the Code. These are:

- The name should not contain more than 10 syllables and be no more than 30 characters long (excluding spaces and single quotation marks);
- The name should not exaggerate the merits of the variety (eg 'Freshest of All', 'Best Ever'), nor should the name be made up of simple descriptive words (eg 'Green', 'Giant');

- Certain words are banned under the Code and must not be used. These are: 'cross', 'hybrid', 'grex', 'group', 'form', 'maintenance', 'mutant', 'seedling', 'selection', 'sport', 'strain', 'variety' (whether in singular or plural form), 'improved' or 'transformed';
- The only punctuation marks that should be used are apostrophes, commas, single exclamation marks, hyphens or full stops; and
- If the name is a single word, it should not be the same as a genus, whether in botanical Latin or modern language. However, such a word may be used in a longer name as long as it does not form the final word of the

name. Further, the name should contain neither the botanical or common name of its genus nor the common name of any species in that genus.

Finally, if an application for PBR has previously been filed in a country which is a member of the relevant international treaty (UPOV), the name used in the first filing must be the official protected name in Australia. This ensures that the variety is known by the same name worldwide. The variety may be marketed under a different name in Australia, although the official name should be included in the synonym.

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Scope of Plant Breeder's Rights (PBR)

The scope of the protection given to owners of PBR is important as it determines when third parties need to seek permission to use the protected variety. From a grower's perspective, the scope of protection is important as it dictates when they may need to pay to use a protected variety, keep certain records and abide by other conditions of use set by the owner of the PBR.

There are three elements of PBR that determine its scope. These relate to:

- The activities covered by the right;
- The plant materials to which these activities relate; and
- The derivation and dependency of the plant variety to which the right attaches.

(i) Activities

PBR grants the owner of a protected variety the right to prevent others from doing certain things in relation to the variety. While the rights given to the owner of PBR are broad, they do not cover all uses of the protected material.

Owners of PBR over a plant variety have exclusive rights to:

- Produce or reproduce the material;
- Condition the material for the purpose of propagation (conditioning includes cleaning, coating, sorting, packaging and grading);
- Offer the material for sale;
- Sell the material;
- Import the material;
- Export the material; and
- Stock the material for any of the purposes described above.

(ii) Plant material

The protection offered by PBR applies to the activities listed above in relation to the 'propagating material' of the protected variety and, in some limited cases, to 'harvested material' and to 'products derived from the harvested material'.

Propagating material

The primary right conferred on owners of PBR relates to 'propagating material'. Propagating material is defined as any part or product of a plant variety that enables a plant with the same essential characteristics to be reproduced. As such, it includes seedlings, seeds, seed potatoes, bulbs, rhizomes, grafts and other types of reproductive material. The nature of plant material and breeding technology means a variety can be propagated from a wide array of plant parts, including material such as cut blooms.

A person will infringe PBR if, for example, they sell propagating materials, produce cuttings, or import bulbs of a protected variety. But if such a person (who has the PBR owner's consent to grow the plant) sells the harvested product (eg beans for canning, cut blooms or rose bushes for personal use) and these products are subsequently used for propagation by the purchaser, it is unlikely that the vendor will be liable. In these cases, the user will be liable as they will have reproduced or 'conditioned' the material for the purposes of propagation without the consent of the PBR owner.

Harvested material

In certain circumstances PBR protection also includes 'harvested material' derived from protected varieties. This occurs where:

- Propagating material of a plant variety covered by PBR is produced or reproduced without the authorisation of the owner;
- The owner does not have a reasonable opportunity to exercise their rights in relation to the propagating material; and
- Material is harvested from the propagating material.

'Harvested material' includes entire plants, parts of plants and plant material such as cut flower blooms.

The rationale for extending protection beyond the propagating material is to provide the owner of the protected variety with some measure of recourse where he or she is unaware that a protected variety has been reproduced without permission. In these circumstances, the harvested material is treated as if it were propagating material.

Take, for example, the following situation: 'Grower A' takes a cutting from a protected variety on the neighbour's land, and grows and harvests a crop. In this situation, the owner of the PBR will not have authorised 'Grower A' to reproduce the variety. As the grantee will not know how much propagating material 'Grower A' planted, they will not have had a reasonable opportunity to exercise their rights over the propagating

material. So long as 'Grower A' harvests from the propagated crop, the scope of protection will extend beyond the propagating material to include the harvested material. 'Grower A' may then infringe the owner's PBR if, for instance, they sell the harvested material without the owner's permission.

Products obtained from harvested material

In some situations, the scope of protection also extends to include products that are made directly from the harvested material (such as flour derived from the wheat). This will occur if:

- Propagating material of a plant variety covered by PBR is produced or reproduced without the authorisation of the owner;
- The owner does not have a reasonable opportunity to exercise their rights in relation to both the propagating material and the harvested material; and
- Products are made from the harvested material.

All three of the above elements must be present.

In these circumstances, the products obtained from the harvested material are treated as if they were propagating material.

(iii) Derivation and dependency of the new variety

In some situations, the protection given to the owner of PBR extends beyond the protected variety to varieties that are 'dependent' on the protected variety, as well as 'essentially derived' varieties.

'Dependent' varieties

If PBR is granted for a variety (the initial variety), the PBR also extends to varieties that are not clearly distinguishable from the protected variety (but are distinguishable from all other known varieties), or whose production requires the repeated use of the protected variety (for example, hybrids).

'Essentially derived' varieties

A variety is deemed to be 'essentially derived' where it is predominantly derived from the initial variety. In addition, the variety must retain the expression of the essential characteristics that result from the genotype of the initial variety, but be distinguishable from the initial variety. Examples of essentially derived varieties can include natural or induced mutants, back-crossing, or transformation by genetic engineering. The key element is that the essentially derived variety does not exhibit any 'important' (as distinct from cosmetic) features that differentiate it from the initial variety.

The breeder of an essentially derived variety is not prevented from obtaining PBR for that variety, provided that the variety conforms to the requirements for registration. However, the owner of the variety from which the essentially derived

variety has arisen may seek a declaration that the variety is essentially derived. Where a declaration is made, the initial owner may prevent exploitation of the essentially derived variety.

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Exceptions and limitations to protection

An important feature of the PBR system is the way the interests of breeders, growers, researchers and the public have been accommodated through the use of exceptions and limitations to the scope of the rights. The *Plant Breeder's Rights Act 1994* provides that certain actions will not infringe the plant breeder's rights. These are acts done:

- Privately and for non commercial purposes;
- For experimental purposes;
- For the purpose of plant breeding; and
- For propagation and conditioning of farm saved propagating material, such as cuttings, tissue culture and seed (for first generation crops).

If a person falls within these exceptions, they will not infringe the owner's rights. The most important exception for growers is the exception in relation to farm saved propagating material, and for plant breeders is the exception for plant breeding.

Farm saved propagating material

Growers can save propagating material protected by PBR to replant for their own use, unless the crop is declared by regulation to be one to which the exemption does not apply. As of March 2008, no such regulations had been made.

While growers can save propagating material indefinitely for their own replanting, there are some limitations if they harvest the resultant crop.

Growers can save propagating material from the first and future generation crops and re-propagate with it. But if the grower harvests material from second and future generation crops and some of this harvested material is not used for replanting, the PBR owner may be able to exercise his or her rights over that harvested material (see Figure 3).

There is still some uncertainty as to the extent of this farm saved propagating material exemption. In the *Cultivaust vs*

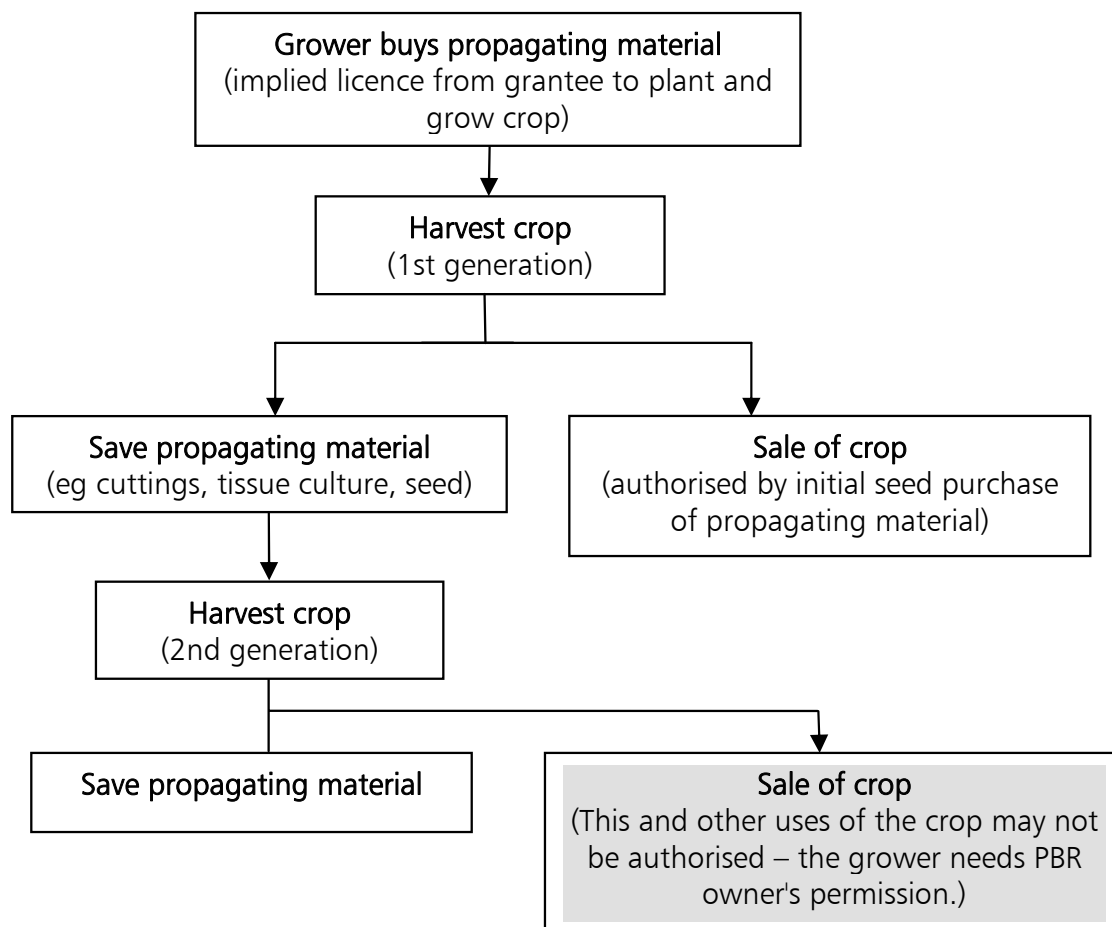
Grainpool case in 2004 the court confirmed that the PBR rights may be exercised over harvested material as outlined above, if the PBR owner has not had reasonable opportunity to exercise their rights over the propagating material. However, on appeal in 2005, although the full Federal Court did not specifically address this issue, it did indicate that the matter may not yet be fully settled.

To provide more certainty on this issue, PBR owners can include provisions in a

contract or grower agreement which address the terms under which they will allow the grower to use PBR protected varieties. This can include non propagation clauses and end-point royalty clauses.

It is important that growers carefully read the terms of any contracts they are asked to sign to ensure they understand the terms and conditions under which the PBR owner is allowing them to use the variety.

Figure 3: Saving propagating material for commercial purposes



Compulsory licence

There is an obligation on the owner of PBR to make reasonable quantities of the protected variety available at a reasonable price to meet public demand. Where this does not occur, a person whose interests are affected (grower, distributor, nursery etc) may seek a compulsory licence over the variety from the Plant Breeder's Rights Office.

A compulsory licence is different from other licences (discussed below) as it is a licence that can be imposed on the owner of the PBR through provisions of the PBR legislation (as opposed to other licences that are voluntarily entered into under the terms of a contract). For a compulsory licence to be granted, a party whose interests are affected must make a written application to the PBR Office. The applicant must show that within two years of the rights being granted, the PBR owner has not taken all reasonable steps to ensure reasonable public access to that plant variety.

To do this the applicant must show that propagating material of reasonable quality is not available to the public at reasonable prices, or as gifts to the public, in sufficient quantities to meet demand. The owner is given the opportunity to refute the claims and to demonstrate that the public access provisions are being met, before a compulsory licence is granted.

If a compulsory licence is granted, the PBR Office can license a person(s) to grow and sell the variety for whatever time and under whatever conditions are deemed necessary. They may also allow growers to sell saved propagating material to other growers. The PBR Office will specify the amount that should be paid (in 'equitable compensation') to the PBR owner.

It is important to note that for a compulsory licence to be granted, it is the propagating material that must be made available to the public, and not the harvested product.

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Commercialising a PBR Variety

There are a number of different ways in which a PBR variety can be commercialised or otherwise exploited. For example, it is possible for the owners to exploit the variety themselves. Alternatively, they can licence other parties to commercialise their varieties, or sell their rights to a third party (this is known as an 'assignment' of rights).

An assignment is a transfer of ownership of the PBR to a third party. As a result, the third party becomes the sole owner of the right.. By contrast, a licence is a contract between the PBR owner and another party which gives the party (the licensee) the right to carry out certain acts without infringing the PBR owner's rights. In some cases, the licensee may enter into a further agreement (or sub-licence) with growers to use the protected variety for certain specified purposes and under certain terms and conditions.

A licence may be total or partial. This means that a PBR owner is able to licence their exclusive rights to sell and offer to sell the propagating material of

the protected variety, whilst retaining the other rights.

Assignment and licences are particular types of contracts. Before examining assignments and licences in more detail, it is useful to note some general rules of contract.

General rules of contract

A contract is a legal relationship that involves an exchange of obligations (or 'bargain') between two or more parties. In order for a valid contract to come into existence, a number of prerequisites must be satisfied.

In particular, there must be:

- an offer to perform an obligation by one party;
- acceptance of that offer by another party;
- 'consideration' must pass from each party to the other. Consideration is a difficult concept but, put simply, it is what one party agrees to do (or not do) in return for the promise being made. For example, in a sale of goods, the consideration from the

purchaser is the promise to pay the purchase price and the consideration from the seller is the transfer of title of the goods to the purchaser; and

- an intention by the parties to be bound by the agreement..

As a general rule, once a contract is signed, the parties are bound by the terms and conditions of the contract. However, in many transactions, there is no written agreement signed by the parties. Contracts can be oral and most need not be in writing to be enforceable.

It is important that parties are aware at what point in time they enter into contractual arrangements. This may often be at the point of sale or purchase of goods (eg seed or other propagating material) and not when a written agreement is given to them some time later. Parties will only be bound by the terms and conditions of this later written contract if reasonable steps were taken to bring the terms and conditions to the party's attention at the time the oral agreement was made.

When purchasing seed, tissue culture or cuttings, it is becoming more common for contracts to be entered into on-line. Parties should be aware that if you purchase on-line (for delivery or collection at a later date) the contract is

usually formed at the time the order is made. Thus, any terms and conditions will be binding upon growers from this point onwards. In other cases, where propagating material is purchased at the point of collection, often the terms of sale will appear on a swing tag attached to the cuttings or seed bag. In this case, growers should take care to familiarise themselves with the terms of sale. In some cases, the swing tag may refer growers to the terms of sale as they appear on the owner or licensee's website. In other cases, just purchasing the propagating material may imply agreement to the terms and conditions.

In some situations, parties may be bound by certain terms and conditions on the basis of a previous course of dealings. This means that if parties have contracted previously on certain terms then it is possible for those terms to be implied into new dealings even though a formal written contract is never entered into.

Parties should pay particular attention to terms of the contract that govern:

- **the parties' rights and obligations** under the contract: for example, whether the contract allows for the owner or licensee to unilaterally alter the terms and conditions in the future; whether the contract gives

the owner or licensee rights of access to the growers' property for the purpose of conducting audits.

- **the obligations that are to be performed** (and by when): for example, many propagating material contracts require detailed records be kept by growers, particularly where payments are made for end point royalties.
- **the payments and their timing:** for example, whether an upfront royalty is to be paid in conjunction with end point royalties on harvested material.
- **the duration of the contract:** for example, some contracts bind the parties for a period of 25 years (even though the PBR rights over the variety may only last for 20 years from the date the variety is protected).
- **terms that stipulate a particular jurisdiction for disputes to be governed by** (often referred to as choice of law clauses): for example, a dispute may be heard in the state/country where the owner or licensee is incorporated rather than where the farm/dispute is.
- **terms that govern how the contract may be terminated by the parties:** for example, some contracts give extensive rights of termination to the owner/licensee but the grower may have limited circumstances in which they are able to terminate the contract;

- **other unusual terms:** for example, in some rural industries, licensors are seeking interests (such as caveats) over the grower's land for the duration of the contract.

In a contract, parties may consent to giving up rights that might otherwise be given to them by law. For example, a grower has some limited rights to save propagating material under the *Plant Breeder's Rights Act 1994* (but not under the *Patents Act 1990*). However, by entering into a contract with a non-propagation clause, they may be agreeing to give up those rights.

One case that highlights the importance of understanding the terms of growers' contracts is the 2002 decision of *Zee Sweet Pty Ltd v Magnom Orchards Pty Ltd*. In this case, Magnom was sued for breaching its Grower Agreement but claimed that the Agreement had been rescinded due to misrepresentations made by Zee Sweet prior to entry into the contract. The court dismissed the claim of misrepresentation and ordered that Magnom destroy all Zee Sweet plants as part of the remedy for their breach of the Grower's Agreement. The destruction of the plants was ordered because the Court ordered that Magnom was to be restrained from dealing with or using the varieties and therefore the trees in question had no

further role to play. This action was consistent with the relevant termination clause in the Grower Agreement (contract).

This case highlights the importance of growers being aware of the conditions under which they grow protected varieties. The consequences of the breach were set out in the contract and were taken to be accepted at the time of entering into that contract.

It is important that all parties understand the consequences of the clauses in the contracts. Growers need to know the terms and conditions under which they are being allowed to grow the variety. The owner/licensee needs to ensure that the conditions are legally valid and therefore enforceable. Unrealistic terms and terms entered into under duress may be held to be void by the courts.

Commercialisation by the owner/grantee

In many cases, the owner of the PBR may commercialise the plant variety themselves. When this happens the owner will often appoint agents with authority to enter into contracts with growers to sell propagating material, and to provide a licence for growers to use the protected variety.

Commercialisation by a third party

Assignment of rights

An assignment is a transfer of the ownership of the PBR to a third party. As a result, the third party is the sole owner of the right(s) in the protected variety.

For example, where a breeder assigns their PBR to a nursery, the breeder has no further legal interest in the protected variety. Assignments are a common way to exploit PBR. As with all contracts, the terms and conditions, including the price paid, for the transfer of rights depend on what the parties negotiate.

The Plant Breeder's Rights Office must be notified in writing of any assignment, whether it is before the granting of PBR, or after. Failure to do so may result in revocation of the PBR.

Voluntary licences

Another way in which to commercialise plant breeder's rights is by a 'licence'. A licence agreement is a contractual arrangement that sets out the conditions under which a variety can be grown. In practice, the most common way of exploiting new varieties protected by PBR is for an owner (or their agent) to enter into individual licences with growers. Licences can take many forms from one-

off permissions, through to exclusive licences. An exclusive licence is an agreement under which the owner not only grants the other party (or 'licensee') permission to use the protected variety; but also promises not to grant any other licences in relation to the protected variety.

In PBR licences, there are typically many varied terms and conditions. The conditions generally relate to royalty payments (see below), duration of the contract, variations to the contract, on-farm audits, mixing of varieties, propagation and replanting saved material.

Licences range from simple, one-line documents to complex, multi-page contracts. In some cases, licences are made available to growers on a PBR owner's website. Where this is the case, growers should visit the website and make themselves familiar with the terms and conditions of the licence prior to entering into any agreement. This is important as you may be agreeing to these terms when making your purchase. Regardless of whether the licence is electronic or in a hard copy form, it is important that growers read the terms of any agreement they are asked to sign and seek legal advice where in doubt.

Closed-loop contracts

Commercialisation of PBR varieties can occur by way of a closed-loop contract. This type of arrangement exists where one party imposes restrictions on another party's freedom to choose with whom, in what, or where they deal. For example, in a closed-loop agreement, a seller may require a buyer only to deal with certain parties nominated by the seller.

Closed-loop contract is an industry term rather than a legal category of contract. The expression can be used to describe a wide range of contractual arrangements. Closed-loop contracts are used in many industries and can take a variety of forms. For example, a closed-loop contract may require a grower who purchases a protected variety from the PBR owner to sell harvested materials or products obtained from harvested materials either back to the PBR owner, or to a specified collection agency. The owner may also stipulate that the grower can only use the protected variety, or can only sell the product to the provider of the propagating material or to a nominated marketing agent.

One possible consequence of using a closed-loop arrangement is that the contract may fall foul of the *Trade Practices Act 1974* (Cth). The Australian

Competition and Consumer Commission (ACCC) pays close attention to any contract that may be anti-competitive. The ACCC examines any collaborative arrangements between parties that would normally operate competitively to see if the proponents of the arrangements can demonstrate that the public benefit would outweigh any reduction in competition. For example the ACCC has issued a determination that denies authorisation to allow a group of nurseries to enter into collective arrangements for coordination of

production, marketing, royalty collection and supply of nominated varieties. The ACCC argued that the group had not shown sufficient additional public benefit to justify the reduced competition.

Another potential problem with closed-loop exploitation is that it can leave owners vulnerable to the claim that they are not making reasonable quantities of the protected variety available to meet demand. If so, they risk third parties making an application for the grant of a compulsory licence under the *Plant Breeder's Rights Act 1994*.

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Payment to use a protected variety

In most cases, the method used to calculate how much is to be paid for use of a protected variety is decided by the market. The *Plant Breeder's Rights Act 1994* only stipulates that persons other than the owner of the PBR may not use propagating material of a protected variety without the permission of the owner. All other terms, including the requirement to pay, the mode of payment, and the amount to be paid, can in theory be negotiated by the parties.

In reality, the amount payable (known as a 'royalty') is generally fixed by the owner of the PBR as part of the sale of propagating material to growers.

The two most common methods of payments are through:

- A propagating material (eg cuttings, tissue culture seed) royalty; and/or
- An end-point royalty or crop improvement royalty (CIP).

Growers are usually asked either to pay an upfront propagating material royalty or an end-point royalty. But in some cases growers can be asked to pay both a propagating material royalty and an end-point royalty.

Propagating material royalties

These royalties are paid on the propagating material, which is usually collected by the seed distributor or nursery as part of the purchase transaction.

A grower can enter into a contract with the owner or licensee of a variety protected by PBR (eg a nursery) where the owner or licensee agrees that the grower can purchase the variety in return for payment of a royalty.

The amount to be paid, which is usually negotiated as part of the sale of the propagating material, is often based on \$ per weight/volume or \$ per plant.

End-point royalties (EPR)

End-point royalties are payments made by the seller of harvested plant products to the owner or licensee of a plant variety. Although harvested material is not generally covered by PBR protection, this form of royalty payment is one of the Terms and Conditions under which the owner will allow others to use the protected variety.

Payment is usually in terms of volume, quantity or weight of product sold by growers, for example, per carton of fruit or per number of flowers.

The recipient of the end-point royalty can be the breeder, distributor or licensee.

Many groups within the horticulture industries are promoting end-point royalties as a fairer system that enables breeders to recoup the money invested in the breeding process, while keeping the cost of propagating material at a reasonable level.

One of the features of end-point royalties is that owners of PBR share some of the risks of crop failure with growers. If a crop fails, the royalty is reduced.

As end-point royalties apply to the products produced, rather than on the propagating material bought, a royalty will still be payable if a grower plants farm-saved propagating material.

The payment of end-point royalties should not be confused with the situation where the owner can exercise PBR over the harvested material or products from harvested material. This occurs when the owner has not had a reasonable opportunity to exercise their rights over the propagating material.

End-point royalties are a contractual arrangement and are used when the owner has had a reasonable opportunity to exercise rights over the propagating material, but chooses to collect an end-point royalty as one of the terms and conditions under which others are allowed to use the protected variety.

9

Infringement and enforcement

A person will infringe PBR if they do something that falls within the exclusive rights of the owner. These rights can be infringed if a person, without permission from the owner, does or claims to be able to:

- Produce or reproduce the propagating material;
- Condition the material for the purpose of propagating;
- Offer the propagating material for sale;
- Import or export the propagating material;
- Stock the propagating material for the above purposes; or
- Use the name of the protected variety for any other plant of the same class.

For example, a person who sells PBR-protected propagating material without the permission of the owner will, unless they fall within one of the exceptions, infringe.

A person who infringes PBR may face both civil and criminal proceedings for infringement.

Civil proceedings

The most common actions for infringement are civil proceedings (where the owner of PBR seeks financial compensation for the infringement). The owner of the PBR is the only person who can bring a civil action for infringement (in contrast to breach of a patent where the licensee can also bring an action).

Before bringing an action, it is normal practice for the owner (or their lawyer) to write a letter to the alleged infringer giving them notice that if they do not stop immediately, court proceedings will be brought against them.

If a court is satisfied an infringement has occurred it can:

- Grant an injunction (with or without conditions) ordering the person to stop the infringement; and/or
- Award either damages or an account of profits (at the option of the plaintiff/owner).

Innocent infringement

Ignorance of the law is not a defence against legal action. However, a court can refuse to make an order for damages or an account of profits if the alleged infringer can demonstrate that at the time of the infringement they were not aware, and had no reasonable grounds to be aware, that PBR protection existed over the variety.

If the propagating material of a variety had been 'sold to a substantial extent' with a PBR label (see Figure 2) before the date of infringement, an infringer is taken to have been aware of the existence of PBR protection unless they can prove otherwise.

Criminal action

It is also a criminal offence to infringe PBR in certain circumstances. A criminal action is only likely to occur in exceptional circumstances and where evidence is conclusive. This is because the offence must be proved 'beyond reasonable doubt'. In contrast, civil actions are decided on the 'balance of probabilities'.

The *Plant Breeder's Rights Act 1994* provides for penalties for infringement of up to:

- \$55,000 for individuals; and
- \$275,000 for companies.

In most cases, for an action to be brought, the prosecution must establish:

- A person has infringed PBR;
- The person intended to infringe PBR;
- PBR had been granted in respect of that plant variety; and
- The person was reckless as to whether PBR had been granted in respect of that plant variety.

It is also a criminal offence for someone to:

- Make false statements in applications or other documents given to the Registrar or Secretary for the purposes of the Act;
- Falsely represent that they are the owner of PBR; or
- Falsely represent that a grant extends to another plant variety.

Each of these offences carries a fine, except the first, which carries a penalty of six months imprisonment.

10

Frequently asked questions

A neighbour has given me propagating material protected by PBR. Do I have to pay royalties if I use it to grow a new crop?

Yes, unless you are growing it privately and for non-commercial purposes. Growers cannot sell, trade, gift, or barter propagating material between themselves. Contact the PBR owner and seek authorisation.

Can I save propagating material from one year's crop for use in the following year?

Yes. A grower can save the propagating material and use it to grow a subsequent crop. But growers need to seek authority from the PBR owner if they want to sell the harvested product grown from the saved crop (see Figure 3), as the owner of PBR may be able to demonstrate that they have not had reasonable opportunity to exercise their rights over the propagating material

Can I sell propagating material that I have saved from one year's crop to a neighbour?

No. The farm-saved propagating material exception only applies to replanting for your own use.

Does it make any difference if I give the saved propagating material away?

No. The saving propagating material (seed) exception only applies to re-growing for your own use. Under no circumstances can you sell, trade, gift or barter the propagating material.

What are propagating material (seed) royalties?

These royalties are up-front payments made by growers for permission to reproduce a PBR protected variety. Typically the royalty will be included in the purchase price paid for propagating material and will be calculated at \$ per weight or \$/plant.

What are end-point royalties? (EPR)

End-point royalties are payments made on the harvested product, rather than the propagating material. For example, instead of paying \$ per volume of seed, or per cutting or tissue culture, end-point royalties require growers to pay \$ per volume/weight/number of the fruit, flowers, product harvested.

What can I do if I want to plant a variety that is PBR protected, but the PBR owner is unwilling to supply me with propagating material? Would it make any difference if they were unable to supply me?

If reasonable quantities of the variety are not available at a reasonable price within 2 years of the grant of PBR there may be a case for seeking a compulsory licence from the PBR Office.

If I sign a contract that says that I cannot save propagating material, what is my position?

If a grower signs a contract that says they cannot save propagating material, the contract will override the statutory exception. Where this occurs if a grower propagates from material they have saved, they will breach the contract.

Am I obliged to let people onto my farm to inspect the crops I have grown?

There is nothing under the *Plant Breeder's Rights Act 1994* that requires growers to allow PBR owners or their representatives onto your property. But the right to inspect may be part of your contract (the terms and conditions under which the owner will let you use the variety) or be a consequence of a court order.

What should I do if I get a letter claiming that I am infringing someone's PBR?

Seek legal advice to ascertain the steps to be taken.

Can a plant be protected by PBR and patent protection at the same time?

Yes. Patent protection is available for plant varieties and components or processes associated with plant varieties in certain circumstances.

If I have entered into a contract which allows me to grow a PBR protected variety, where the term of the contract is for 20 years, but the PBR term has only 15 years to go, what is my position at the end of that 15 years?

Technically the contract still holds and you would still have to abide by its terms, including paying royalties. You could seek legal advice to see if there was any redress in terms of the clause being unenforceable.

However, the best way is to check the remaining duration of the PBR protection before signing the agreement, and negotiate a contract where the term coincides with the remainder of the PBR term.

What can I do if I have purchased propagating material from the PBR owner and I am later sent a contract in the mail that contains terms that I do not agree with? Am I bound by the written contract? When I purchased the propagating material I did not sign anything apart from what I thought was a delivery receipt.

You may be bound by the written agreement, even though you have not signed it. Whether or not you are bound depends on what occurred at the time you purchased the propagating material. For example, you may have entered into an oral contract with the PBR owner when you purchased the propagating material. If you have signed a delivery receipt, you should check whether this document contains any terms and conditions of sale. This document may refer to the terms and conditions of the main contract which may be sent to you at a later stage.

Growers will only be bound by the terms and conditions of this later contract if reasonable steps were taken to bring the terms and conditions to the growers' attention at the time the growers purchased the propagating material. This may be done by a notice on the documentation provided at the point of sale. In some cases, documents may contain wording to the effect of "See Over for Terms and Conditions" and reference is made on the reverse side to the written contract. If this is the case, then you may have agreed to the terms of the written contract even though it was not produced to you in full at the time of purchase.

This is by no means a straight-forward situation. In future, growers should ask for the terms and conditions of sale to be explained at the point of sale prior to purchasing any seeds or propagating material.

Can I protect a "sport" from an existing variety?

Yes, if the "new" variety meets the DUS criteria (Distinct, Uniform and Stable). The "new" variety may also be considered to be "essentially derived" from the original variety if the only differences are cosmetic rather than "important".

APPENDIX 1:

Other relevant forms of Intellectual Property

Patents

Patents are the oldest and strongest form of intellectual property. Patents are generally available for products and processes (or techniques) that are new, useful, and involve an inventive step over the common general knowledge available to a person of ordinary skill in the relevant field of technology. The owner of a patent obtains exclusive rights to:

- Where the invention is a product – make, hire, sell or otherwise dispose of the product, offer to make, sell, hire or otherwise dispose of it, use or import it, or keep it for the purpose of doing any of those things; or
- Where the invention is a process – use the method or process.

There are two types of patent available for inventions in Australia: a standard patent and an innovation patent. An innovation patent has a shorter term of protection (8 years as opposed to 20 years for a standard patent) and requires

a lower threshold of inventiveness (an 'innovative step' as opposed to an 'inventive step').

There are few restrictions on the types of subject matter that may be protected by patent in Australia. However, innovation patents are not available in respect of plants or the biological processes for the generation of plants. This subject matter may be protected by a standard patent, however.

In Australia, a new variety may be simultaneously protected by both PBR and patents. For example, a new variety developed by genetic transformation may be protected by PBR, whilst the transformation technique, the gene, plant cells containing the gene, and the resulting plant variety itself might also be protected by patent. In this situation, the grower may need to obtain the permission of both the patent holder and the grantee of PBR to grow the variety commercially.

Trade marks

While a plant variety cannot include the name of a trade mark, it can be marketed under, or in conjunction with, a trade mark.

Trade marks receive legal protection either through registration under the *Trade Marks Act 1995* or as unregistered marks through other legal regimes, such as the law of 'passing off' or consumer protection legislation such as the *Trade Practices Act 1974*.

An application for the registration of a trade mark is made to the Trade Marks Office at IP Australia. The application must give details of the applicant, provide a representation of the trade mark, and specify the goods and/or services in respect of which the mark is to be registered. The application will initially be examined by the Registrar to ensure that it can be registered. If the Registrar rejects the application the applicant will be given an opportunity to make a case to have this decision reversed. Third parties will also have an opportunity to object to the registration once it is accepted by the Registrar. In such a case the Registrar will hear representations from both parties before deciding whether to accept or reject the mark.

There are a number of grounds on which the Registrar can reject an application for registration. Most importantly, an application will be rejected if the mark lacks 'distinctiveness'.

Distinctiveness means that the mark must be able to do the job of distinguishing the applicant's goods and/or services from those of other traders. Marks that merely describe the goods and/or services in respect of which they are used (eg 'canola oil') or a quality of those goods/services (eg, 'healthy', 'tasty'), or the geographical origin of the goods and services (eg, 'Wimmera') are common examples of marks that lack inherent distinctiveness. However, such marks can be registered if they acquire distinctiveness. The key is whether the mark has been used to such an extent that it has come to be understood by consumers as an indication of the source of a particular trader's goods and/or services. The registered mark 'Sunraysia' (registered for fruit juice) is such an example.

Other grounds on which the registration of a mark may be rejected include:

- The mark is misleading (in relation to the goods and services the subject of the application);

- The mark is offensive or contrary to law (eg, if use of the mark would infringe someone else's copyright); or
- The mark is substantially identical with, or deceptively similar to, an earlier trade mark that has been applied for or is registered in respect of identical or similar goods.

Trade marks have to be renewed every ten years, although there is no limit to the number of times that a mark can be renewed. There are, however, certain ways in which the right to renew may be lost. Most importantly, a registered mark will be liable to be removed from the register if the owner has failed to use the mark in the preceding three years.

Trade marks can be licensed and assigned. However, where a trade mark is unregistered (that is, protected by the law of passing off and related actions) a more restricted rule applies. Rights in an unregistered mark can only be transferred with the sale of the underlying business to which the 'goodwill' in the unregistered sign is attached.

Confidential information

The action for breach of confidence is an ancient form of protection that has been developed by the courts, rather than by statute. In order to maintain an action for breach of confidence, the claimant must establish that the defendant has used secret information 'belonging' to

the claimant without the claimant's authorisation. The defendant must also be aware that the information is regarded as secret by the claimant.

The basis of the cause of action is to restrain unconscientious use of confidential information and, as such, there are few limits on the types of information that may be protected. The action is frequently invoked to protect trade secrets, know-how and other types of commercially valuable information.

Confidential information in the form of 'know-how' (for example, optimum propagating conditions) is often disclosed by the owner of PBR to a licensee. Frequently, this information is as valuable as the plant variety itself. A licensee who uses this information other than for the purpose(s) for which it was disclosed may be liable for breach of confidence.

A broad range of remedies are available to a claimant that is successful in establishing a breach of confidence. These include equitable damages, account of profits, delivery up and destruction of the offending material, and injunctive relief. A court can also make orders which may assist a potential claimant to ascertain whether a breach of confidence has occurred, and to prevent the destruction or removal of confidential information from the jurisdiction.

The action for breach of confidence has been invoked on a number of occasions to protect secret propagating techniques and plant varieties. In a celebrated decision of the Queensland Supreme Court, *Franklin v Giddins*, a defendant who stole budwood of a secret, new nectarine variety (Franklin Early White)

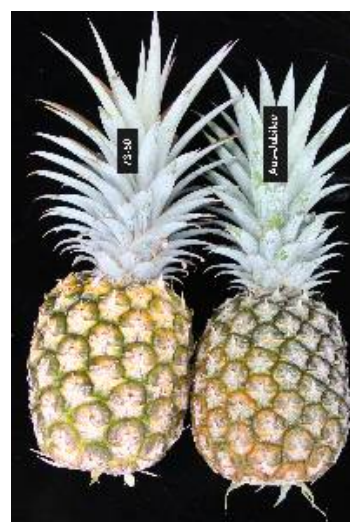
from the breeder's orchard was ordered to deliver up to the breeder all of the nectarine trees propagated from the stolen budwood for destruction. The Court also restrained the defendant from selling or disposing of any fruit obtained from the nectarine trees.

APPENDIX 2:

Examples of detailed descriptions of protected varieties

[extracts from IP Australia PBR database and the *Plant Varieties Journal*]

Pineapple (<i>Ananas comosus</i>)	
Variety:	'Aus-Jubilee'
Synonym:	Jubilee
Application no:	2005/353
Current status:	ACCEPTED
Certificate no:	N/A
Received:	23-Dec-2005
Refused:	N/A
Accepted:	09-Feb-2006
Withdrawn:	N/A
Granted:	N/A
Terminated:	N/A
Description published in <i>Plant Varieties Journal</i> :	Volume 20, Issue 4 (Quarter 4 2007)
Title Holder:	State of Queensland through its Department of Primary Industries and Fisheries
Agent:	N/A
Telephone:	0732390802
Fax:	0732393948



Details of Application	
Application Number	2005/353
Variety Name	'Aus-Jubilee'
Genus Species	<i>Ananas comosus</i>
Common Name	Pineapple
Synonym	Jubilee
Accepted Date	9 Feb 2006
Applicant	State of Queensland through its Department of Primary Industries and Fisheries, Brisbane, QLD
Agent	N/A
Qualified Person	Garth Sanewski
Details of Comparative Trial	
Location	Maroochy Research Station, Nambour
Descriptor	Pineapple (<i>Ananas comosus</i>) TG/PINEAP (proj. 1)
Period	Planted late Sep 2005, induced on 2 Feb 2007 and harvested from Aug to Sep 2007. Flower data collected Apr 2007.
Conditions	Plants treated according to standard commercial practices with the addition of trickle irrigation. Planting density of approximately 50,000 plants/ha used.
Trial Design	Randomised Complete Block of 5 blocks and 10 plants per variety per block.
Measurements	Reference leaf data and flower data collected on 2 plants/plot (total 10 samples/variety). All plant data collected on 10 plants/plot (total of 50 plants/variety). Fruit data collected on all harvested fruit. Eye dimensions collected on 3 eyes/fruit to give a fruit sample mean. Fruit firmness data results of 3 measurements/fruit to give a fruit sample mean.
RHS Chart - edition	Third edition, 1995.
Origin and Breeding	
<p>Controlled pollination: seed parent 'Smooth Cayenne' x pollen parent '73-50' in a planned breeding program on Maroochy Research Station (MRS) at Nambour, Queensland, in 1993 using conventional hand pollination techniques. The seed was extracted and germinated in a glasshouse on MRS in 1994. The seedlings were planted on MRS in Dec 1995. The original seedling, designated 10-2594, was harvested on 12 Sep 1997. The seed parent is characterised by high yield and good plant vigour. The pollen parent is characterised by high flesh aroma, moderate high sugar content, low acidity and yellow flesh. Selection criteria: characters used in the selection included piping leaf margin, high total soluble solids, moderate acidity, good flavour, yellow flesh, and improved resistance to natural flower initiation and translucency. Propagation: the vegetative shoots on the original seedling were collected and planted on MRS in 1997. Replantings using the same method</p>	

were made approximately every 2 years. In addition approximately 500 plants were produced through meristem culture at MRS using standard protocols for pineapple. Plants considered not similar to the original were discarded at each planting.

Choice of Comparators Characteristics used for grouping varieties to identify the most similar Variety of Common Knowledge

Organ/Plant Part	Context	State of Expression in Group of Varieties
Leaf	margin type	pipings
Fruit/flesh	colour	yellow

Most Similar Varieties of Common Knowledge identified (VCK)

Name	Comments
'73-50'	Pollen parent and standard commercial fresh market cultivar.

Varieties of Common Knowledge identified and subsequently excluded

Variety	Distinguishing Characteristics	State of Expression in Candidate Variety	State of Expression in Comparator Variety	Comments
'Smooth Cayenne'	Leaf presence of anthocyanins (upper surface)	Absent	present	
'Smooth Cayenne'	Leaf leaf margin	Piping	spiny tip	Seed parent to 'Aus-Jubilee'
'73-114'	Leaf leaf margin	Piping	spiny tip	Similar dark green leaf as 'Aus-Jubilee'

Variety Description and Distinctness - Characteristics which distinguish the candidate from one or more of the comparators are marked with a tick.

Organ/Plant Part: Context	'Aus-Jubilee'	'73-50'
<input type="checkbox"/> *Plant: foliage attitude	semi-erect to spreading	semi-erect to spreading
<input type="checkbox"/> Plant: leaf emission rate (number of leaves produced from 4 months after planting to forcing)	quick to very quick	medium
<input type="checkbox"/> Reference leaf: length	short to medium	medium
<input type="checkbox"/> Reference leaf: maximum width	narrow to medium	medium
<input type="checkbox"/> Reference leaf: weight	low to medium	medium
<input checked="" type="checkbox"/> *Leaf: predominant colour (on upper face)	dark green	green
<input checked="" type="checkbox"/> *Leaf: presence of anthocyanins (on upper surface)	absent	present
<input type="checkbox"/> *Leaf: leaf edges aspect	pipings	pipings
<input type="checkbox"/> *Plant: fruit habit when ripe	upright	bending to upright

<input type="checkbox"/> *Peduncle: length	medium	medium to long
<input type="checkbox"/> *Suckers: mean number of underground suckers per plant	few	few
<input type="checkbox"/> *Suckers on peduncle: mean number of aerial suckers per plant	medium	few
<input type="checkbox"/> *Suckers on peduncle: size of aerial suckers at fruit harvest	small	medium
<input type="checkbox"/> *Slips: presence/absence	present	present
<input type="checkbox"/> *Slips: number of slips	few	medium
<input type="checkbox"/> *Crown: height	medium	high
<input type="checkbox"/> Crown: weight	medium	medium to large
<input type="checkbox"/> *Fruit: breaking from peduncle	easy	easy
<input type="checkbox"/> *Fruit: shape when ripe	ovoid	ovoid
<input type="checkbox"/> *Fruit: predominant skin colour when ripe	golden yellow	yellow
<input type="checkbox"/> *Fruit: colour uniformity when ripe	with a gradient	with a gradient
<input type="checkbox"/> *Fruit: height (without neck)	short to medium	medium
<input type="checkbox"/> *Fruit: diameter at the middle	small to medium	medium
<input type="checkbox"/> *Fruit: weight (without crown)	low to medium	medium
<input type="checkbox"/> Fruit: eyes number	medium	small to medium
<input type="checkbox"/> *Fruit: eye relative surface	medium	medium to large
<input type="checkbox"/> *Fruit: eye profile	flat	flat
<input type="checkbox"/> *Fruit/flesh: colour	pale yellow	yellow
<input type="checkbox"/> *Fruit/flesh: visual appraisal of density or pulp density	strong	medium
<input checked="" type="checkbox"/> Fruit/flesh: firmness	medium to strong or firm	medium
<input type="checkbox"/> *Fruit/flesh: texture	fibrous	smooth
<input type="checkbox"/> Fruit/flesh: fibrousness	medium	low to medium
<input checked="" type="checkbox"/> Fruit/flesh: aroma	medium	high
<input checked="" type="checkbox"/> *Fruit/flesh: sugar taste	high	medium to high
<input type="checkbox"/> *Fruit/flesh: acidic taste	low to medium	low
<input type="checkbox"/> *Fruit/flesh: juiciness	medium	medium to high
<input checked="" type="checkbox"/> *Fruit/juice: sugar content (using refractometer)	high	medium to high

Characteristics Additional to the Descriptor/TG		
Organ/Plant Part: Context	'Aus-Jubilee'	'73-50'
<input checked="" type="checkbox"/> Peduncle bract: presence of anthocyanin on upper bract surface	slight	strong
<input checked="" type="checkbox"/> Peduncle bract: colour of anthocyanin on upper face	48D	48D
<input type="checkbox"/> fruit: extent of flesh translucency midway up fruit	slight	moderate
<input checked="" type="checkbox"/> Fruit: eye height at middle of fruit	medium	large

<input checked="" type="checkbox"/> Fruit: eye width at middle of fruit	medium	large
Statistical Table		
Organ/Plant Part: Context	'Aus-Jubilee'	'73-50'
<input type="checkbox"/> Plant: plant height to apex of flowering syncarp (cm)		
Mean	56.50	58.75
Std. Deviation	4.93	5.06
LSD/sig	7.80	ns
<input type="checkbox"/> Slips: number of slips		
Mean	0.27	1.20
Std. Deviation	0.60	1.39
LSD/sig	0.56	P≤0.01
<input type="checkbox"/> Sucker: length of longest sucker (cm)		
Mean	44.84	68.29
Std. Deviation	27.85	31.18
LSD/sig	15.87	P≤0.01
<input checked="" type="checkbox"/> Fruit: eye height (mm)		
Mean	24.75	29.04
Std. Deviation	1.65	2.10
LSD/sig	1.63	P≤0.01
<input checked="" type="checkbox"/> Fruit: eye width (mm)		
Mean	23.55	27.91
Std. Deviation	1.22	1.29
LSD/sig	1.06	P≤0.01
<input checked="" type="checkbox"/> Fruit: number of eyes		
Mean	118.65	94.27
Std. Deviation	19.75	11.50
LSD/sig	14.25	P≤0.01
<input type="checkbox"/> Fruit: ratio eye width to fruit diameter		
Mean	5.22	4.78
Std. Deviation	0.37	0.35
LSD/sig	0.28	P≤0.01
<input type="checkbox"/> Fruit: diameter at the middle (mm)		
Mean	123.00	133.07
Std. Deviation	10.11	7.86
LSD/sig	7.40	P≤0.01
<input type="checkbox"/> Fruit: weight without crown (g)		
Mean	1435.0	1765.00
Std. Deviation	381.00	336.00
LSD/sig	303.20	P≤0.01
<input type="checkbox"/> Fruit/flesh: juiciness (%)		

Mean	42.03	48.86
Std. Deviation	4.90	2.91
LSD/sig	3.83	P<0.01
<input checked="" type="checkbox"/> Fruit/flesh: sugar content (using refractometer) (%)		
Mean	15.95	14.67
Std. Deviation	1.45	1.23
LSD/sig	1.09	P<0.01
<input type="checkbox"/> Crown: height (mm)		
Mean	180.00	221.50
Std. Deviation	33.10	34.20
LSD/sig	28.7	P<0.01
<input type="checkbox"/> Crown: weight (g)		
Mean	171.8	238.80
Std. Deviation	44.70	48.20
LSD/sig	36.78	P<0.01
<input type="checkbox"/> Fruit: diameter of peduncle scar (mm)		
Mean	34.74	29.07
Std. Deviation	4.68	4.79
LSD/sig	3.80	P<0.01
<input type="checkbox"/> Sucker: number of aerial suckers		
Mean	0.99	0.80
Std. Deviation	0.63	0.64
LSD/sig	0.34	ns
<input type="checkbox"/> Peduncle: length of peduncle (cm)		
Mean	24.18	25.04
Std. Deviation	3.36	11.44
LSD/sig	4.56	ns
<input type="checkbox"/> Peduncle: width of peduncle (mm)		
Mean	27.04	23.31
Std. Deviation	4.51	4.03
LSD/sig	2.27	P<0.01

Prior Applications and Sales

Nil prior applications. First sold in July, 2007. Approximately 11 pallet of fruit (7,250 fruit) test marketed as 1 consignment through Brisbane wholesale markets.

Description: **Garth Sanewski**, Maroochy Research Station, Nambour, QLD.

Mango (*Mangifera indica*)

Variety: 'Minijac'
Synonym: N/A
Application no: 2000/301
Current status: ACCEPTED
Certificate no: N/A
Received: 04-Oct-2000
Refused: N/A
Accepted: 30-Nov-2000
Withdrawn: N/A
Granted: N/A
Terminated: N/A



Description published in Plant Varieties Journal: Volume 20, Issue 4 (Quarter 4 2007)

Title Holder: Herminia and Jacinto Lay
Agent: N/A
Telephone: 0889816112
Fax: 0889812892

<u>Details of Application</u>	
Application Number	2000/301
Variety Name	'Minijac'
Genus Species	<i>Mangifera indica</i>
Common Name	Mango
Synonym	Nil
Accepted Date	30 Nov 2000
Applicant	Herminia and Jacinto Lay, Colton Park Trading Pty Ltd, Darwin, NT
Agent	N/A
Qualified Person	Ian Paananen
<u>Details of Comparative Trial</u>	
Location	Noonamah, NT
Descriptor	Mango (new) (<i>Mangifera indica</i>) TG/112/4
Period	Spring 2007

Conditions	Trial conducted with mature trees under a typical orchard system and with typical management with uniform growing conditions.			
Trial Design	Five plants of each variety; no formal design used as plants were from within a standard block planting.			
Measurements	Randomly selected ten fruits.			
RHS Chart - edition	1995			
Origin and Breeding				
Open pollination: The new variety originated as an open-pollinated seedling of 'Nam Dok Mai'. The parent is characterised by a green and yellow mature fruit skin colour and an absence of pink blush on skin of immature fruit. The seedling fruited in 1992 and the unique and attractive features of the fruits were noted in 1994. Selection took place in Noonamah, NT. Selection criteria: colour of skin of fruit. Propagation: vegetative grafts were found to be uniform and stable. Breeders: Herminia and Jacinto Lay, Noonamah, NT.				
Choice of Comparators Characteristics used for grouping varieties to identify the most similar Variety of Common Knowledge				
Organ/Plant Part	Context	State of Expression in Group of Varieties		
Mature fruit	presence of sinus	present		
Mature fruit	shape of dorsal shoulder	sloping downward		
Mature fruit	point at styler scar	medium		
Ripe fruit	turpentine flavour	absent		
Seed	embryony	polyembryonic		
Time of	beginning of flowering	medium		
Time of	fruit maturity	medium		
Most Similar Varieties of Common Knowledge identified (VCK)				
Name	Comments			
'Nam Dok Mai'				
Varieties of Common Knowledge identified and subsequently excluded				
Variety	Distinguishing Characteristics		State of Expression in Candidate Variety	State of Expression in Comparator Variety
TPP1'	immature fruit	colour of skin	green with pink blush	green only
TPP1'	mature fruit	colour of skin	green with pink blush	predominantly green

Variety Description and Distinctness - Characteristics which distinguish the candidate from one or more of the comparators are marked with a tick.

Organ/Plant Part: Context	'Minijac'	'Nam Dok Mai'
<input type="checkbox"/> *Tree: attitude of main branches	erect	erect
<input checked="" type="checkbox"/> *Young leaf: intensity of anthocyanin colouration	medium	weak
<input checked="" type="checkbox"/> Leaf blade: length	medium	long
<input checked="" type="checkbox"/> Leaf blade: width	narrow to medium	medium to broad
<input type="checkbox"/> *Leaf blade: ratio length/width	large	large to very large
<input type="checkbox"/> Leaf blade: shape	elliptic	elliptic
<input type="checkbox"/> Leaf blade: colour	medium green	medium green
<input type="checkbox"/> Leaf blade: twisting	present	present
<input type="checkbox"/> Leaf blade: spacing of secondary veins	medium	medium
<input checked="" type="checkbox"/> Leaf blade: undulation of margin	absent or weak	medium
<input type="checkbox"/> Leaf blade: shape of base	acute	acute
<input checked="" type="checkbox"/> Leaf blade: shape of apex	acute	acuminate
<input type="checkbox"/> Petiole: attitude in relation to shoot	semi erect	semi erect
<input type="checkbox"/> Petiole: length	medium	short to medium
<input type="checkbox"/> *Inflorescence: length	medium	medium
<input type="checkbox"/> *Mature fruit: length	medium to long	medium to long
<input checked="" type="checkbox"/> *Mature fruit: width	narrow	medium
<input checked="" type="checkbox"/> *Mature fruit: ratio length/width	large to very large	medium to large
<input type="checkbox"/> *Mature fruit: shape in cross section	broad elliptic	broad elliptic
<input checked="" type="checkbox"/> *Mature fruit: colour of skin	green and pink	green and yellow
<input type="checkbox"/> Mature fruit: density of lenticels	sparse to medium	sparse to medium
<input checked="" type="checkbox"/> Mature fruit: colour contrast between lenticels and skin	weak to medium	very weak
<input type="checkbox"/> Mature fruit: size of lenticels	small to medium	small to medium
<input type="checkbox"/> Mature fruit: roughness of surface	absent	absent
<input type="checkbox"/> Mature fruit: stalk cavity	absent or shallow	absent or shallow
<input type="checkbox"/> Mature fruit: presence of neck	absent	absent
<input checked="" type="checkbox"/> *Mature fruit: shape of ventral shoulder	sloping downward	rounded downward
<input type="checkbox"/> *Mature fruit: shape of dorsal shoulder	sloping downward	sloping downward
<input type="checkbox"/> Mature fruit: length of groove in ventral shoulder	absent or short	absent or short
<input type="checkbox"/> Mature fruit: bulging on ventral shoulder	absent	absent
<input type="checkbox"/> *Mature fruit: presence of sinus	present	present
<input checked="" type="checkbox"/> *Mature fruit: depth of sinus	medium	shallow
<input checked="" type="checkbox"/> *Mature fruit: bulging proximal of stylar scar	absent or weak	medium
<input type="checkbox"/> Mature fruit: point at stylar scar	medium	medium

<input type="checkbox"/> Mature fruit: diameter of stalk attachment	medium	medium
<input checked="" type="checkbox"/> *Ripe fruit: predominant colour of skin	yellow and orange	yellow
<input type="checkbox"/> Ripe fruit: speckling of skin	weak	weak
<input type="checkbox"/> Ripe fruit: thickness of skin	thin to medium	medium
<input checked="" type="checkbox"/> Ripe fruit: adherence of skin to flesh	weak	medium to strong
<input checked="" type="checkbox"/> Ripe fruit: main colour of flesh	medium orange	light yellow
<input checked="" type="checkbox"/> Ripe fruit: firmness of flesh	soft	medium
<input type="checkbox"/> Ripe fruit: juiciness	medium	low to medium
<input type="checkbox"/> Ripe fruit: texture of flesh	fine	fine to medium
<input type="checkbox"/> *Ripe fruit: amount of fiber attached to stone	low	very low to low
<input type="checkbox"/> Ripe fruit: amount of fiber attached to skin	medium	medium
<input type="checkbox"/> *Ripe fruit: turpentine flavor	absent	absent
<input checked="" type="checkbox"/> Stone: relief of surface	grooved	ridged
<input type="checkbox"/> Seed: shape in lateral view	reniform	reniform
<input type="checkbox"/> *Seed: embryony	polyembryonic	polyembryonic
<input type="checkbox"/> Time of: beginning of flowering	medium	medium
<input type="checkbox"/> *Time of: fruit maturity	medium	medium

Characteristics Additional to the Descriptor/TG

Organ/Plant Part: Context	'Minijac'	'Nam Dok Mai'
<input checked="" type="checkbox"/> Immature fruit: presence of pink blush	present	absent

Statistical Table

Organ/Plant Part: Context	'Minijac'	'Nam Dok Mai'
<input checked="" type="checkbox"/> Leaf blade: length (mm)		
Mean	188.00	230.50
Std. Deviation	14.40	21.20
LSD/sig	20.67	P<0.01
<input checked="" type="checkbox"/> Leaf blade: width (mm)		
Mean	45.20	53.40
Std. Deviation	4.40	5.90
LSD/sig	5.96	P<0.01
<input type="checkbox"/> Leaf blade: ratio length/width		
Mean	4.18	4.33
Std. Deviation	0.40	0.30
LSD/sig	0.35	ns
<input checked="" type="checkbox"/> Petiole: length (mm)		
Mean	36.70	30.60
Std. Deviation	5.90	4.20

LSD/sig	5.88	P≤0.01
<input type="checkbox"/> Mature fruit: length		
Mean	145.50	151.60
Std. Deviation	10.60	13.70
LSD/sig	13.96	ns
<input checked="" type="checkbox"/> Mature fruit: width (mm)		
Mean	64.20	76.50
Std. Deviation	3.30	6.20
LSD/sig	5.68	P≤0.01
<input checked="" type="checkbox"/> Mature fruit: ratio length/width		
Mean	2.27	1.98
Std. Deviation	0.10	0.10
LSD/sig	0.15	P≤0.01

Prior Applications and Sales

Nil.

Description: **Ian Paananen**, Crop & Nursery Services, Central Coast, NSW.

Grevillea (*Grevillea hybrid*)

Variety: 'Blood Orange'
Synonym: N/A
Application no: 2006/218
Current status: ACCEPTED
Certificate no: N/A
Received: 07-Aug-2006
Refused: N/A
Accepted: 05-Oct-2006
Withdrawn: N/A
Granted: N/A
Terminated: N/A



Description published in Plant Varieties Journal: Volume 20, Issue 4 (Quarter 4 2007)

Title Holder: Christopher John Hughes
Agent: N/A
Telephone: 0266884189
Fax: 0266884383

<u>Details of Application</u>	
Application Number	2006/218
Variety Name	'Blood Orange'
Genus Species	<i>Grevillea hybrid</i>
Common Name	Grevillea
Synonym	Nil
Accepted Date	5 Oct 2006
Applicant	Christopher John Hughes, Federal, NSW
Agent	N/A
Qualified Person	Ian Paananen

<u>Details of Comparative Trial</u>	
Location	Federal, NSW.
Descriptor	<i>Grevillea (Grevillea)</i> PBR GREV

Period	Summer 2007 - winter 2007.
Conditions	Trial conducted with mature plants in ground, plants originally propagated by cuttings, potted to 200mm containers filled with soilless potting mix, nutrition maintained with slow release and liquid fertilisers, irrigation by overhead watering, pest and disease treatments not required.
Trial Design	Ten plants of each variety arranged in a completely randomised design.
Measurements	From ten plants.
RHS Chart - edition	1995.

Origin and Breeding

Open pollination: 'Honey Gem'. The parent is characterised by a predominantly orange inflorescence colour. Selection took place in Federal, NSW. Selection criteria: colour of inflorescence. Propagation: vegetative cuttings were found to be uniform and stable. Breeders: Christopher Hughes, Federal, NSW.

Choice of Comparators Characteristics used for grouping varieties to identify the most similar Variety of Common Knowledge

Organ/Plant Part	Context	State of Expression in Group of Varieties
Leaf	division of blade	all leaves on plant divided
Leaf	degree of division	first order
Leaf	depth of division of blade	greater than two thirds of way to midrib

Most Similar Varieties of Common Knowledge identified (VCK)

Name	Comments
'Honey Gem'	parent variety with same foliage type
'Bird Song'	similar foliage type

Variety Description and Distinctness - Characteristics which distinguish the candidate from one or more of the comparators are marked with a tick.

Organ/Plant Part: Context	'Blood Orange'	'Bird Song'	'Honey Gem'
<input checked="" type="checkbox"/> Plant: growth habit	upright	bushy	upright
<input type="checkbox"/> Plant: attitude of branches	erect to semi-erect	erect to semi-erect	erect to semi-erect
<input checked="" type="checkbox"/> Plant: height	medium (1-3m)	medium (1-3m)	tall (> 3m)
<input type="checkbox"/> Plant: density (assessment of foliage at flowering)	medium	medium to dense	medium
<input checked="" type="checkbox"/> Young stem: colour	greyed orange	greyed orange	brown
<input checked="" type="checkbox"/> Stem: colour	brown	greyed orange	brown

<input type="checkbox"/> Stem: hairiness	medium to strong	medium to strong	strong
<input type="checkbox"/> Petiole: length	short to medium	short to medium	medium
<input type="checkbox"/> Leaf: length	very long (> 20cm)	long (15-20cm)	very long (> 20cm)
<input type="checkbox"/> Leaf: width at widest point	very broad (> 20cm)	very broad (> 20cm)	very broad (> 20cm)
<input type="checkbox"/> Leaf: attitude to stem	semi-erect	semi-erect to horizontal	semi-erect
<input type="checkbox"/> Leaf: curvature of margin	flat or slightly recurved, under surface on either side of the mid-vein wholly exposed	flat or slightly recurved, under surface on either side of the mid-vein wholly exposed	flat or slightly recurved, under surface on either side of the mid-vein wholly exposed
<input type="checkbox"/> Leaf: colour of upper side (including hairs)	dark green	dark green	dark green
<input type="checkbox"/> Leaf: degree of hairiness on upper side	very weak	very weak	very weak
<input type="checkbox"/> Leaf: degree of hairiness on lower side	medium	medium	weak to medium
<input type="checkbox"/> Leaf: colour of hairiness on lower side	white	white	white
<input type="checkbox"/> Leaf: undulation of margin	weak	weak	weak
<input type="checkbox"/> Leaf: division of blade	some or all leaves on plant divided	some or all leaves on plant divided	some or all leaves on plant divided
<input type="checkbox"/> Leaf: degree of division of blade (varieties with division of blade present only)	first order	first order	first order
<input type="checkbox"/> Leaf: depth of division of blade (varieties with division of blade present only)	sinus greater than two thirds of way to midrib	sinus greater than two thirds of way to midrib	sinus greater than two thirds of way to midrib
<input type="checkbox"/> Leaf: number of lobes (varieties with division of blade present only)	many (> 20)	many (> 20)	many (> 20)
<input type="checkbox"/> Leaf: regularity of lobing (varieties with division of blade present only)	regular	regular	regular
<input type="checkbox"/> Leaf: attitude of longitudinal axis of lobes to longitudinal axis of midrib (varieties with division of blade present only)	semi-erect	semi-erect	semi-erect
<input type="checkbox"/> Leaf: attitude of longitudinal axis of lobes to one another on same side of leaf (varieties with division of	parallel	parallel	parallel

blade present only)			
<input type="checkbox"/> Leaf: shape of apex of sinus (varieties with division of blade present only)	pointed	pointed	pointed
<input type="checkbox"/> Lobe: width (varieties with division of blade present only)	narrow	narrow	narrow
<input type="checkbox"/> Lobe: shape of apex of ultimate lobe (varieties with division of blade present only)	pointed	pointed	pointed
<input type="checkbox"/> Flowering branch: position of inflorescence	both terminal and axillary	both terminal and axillary	both terminal and axillary
<input type="checkbox"/> Inflorescence: length	medium to long	medium	medium to long
<input type="checkbox"/> Inflorescence: width	medium	medium	medium
<input checked="" type="checkbox"/> Inflorescence: predominant colour	pink	orange	orange
<input type="checkbox"/> Inflorescence: density of florets	dense	dense	dense
<input checked="" type="checkbox"/> Inflorescence: number of flowers	many to very many	many	many to very many
<input checked="" type="checkbox"/> Inflorescence: attitude	semi-erect to horizontal	semi-erect	semi-erect
<input type="checkbox"/> Inflorescence: form	cylindrical	cylindrical	cylindrical
<input type="checkbox"/> Inflorescence: branching	absent or very weak	absent or very weak	absent or very weak
<input type="checkbox"/> Inflorescence: sequence of opening of the flowers	centripetal	centripetal	centripetal
<input type="checkbox"/> Rachis: length	medium to long	medium	medium to long
<input type="checkbox"/> Bud: colour of perianth	green	green	green
<input checked="" type="checkbox"/> Bud: colour of limb	green	orange	yellow
<input type="checkbox"/> Bud: attitude of limb in relation to longitudinal axis of bud (late bud prior to anthesis)	drooping	drooping	drooping
<input type="checkbox"/> Flower: attitude of pedicel in relation to rachis	leaning away from inflorescence peduncle	leaning away from inflorescence peduncle	leaning away from inflorescence peduncle
<input checked="" type="checkbox"/> Flower: length of pedicel	short	very short to short	short to medium
<input checked="" type="checkbox"/> Perianth: colour	pink	orange	orange
<input type="checkbox"/> Perianth: degree of hairiness (outside of perianth including limb)	medium	weak to medium	medium
<input type="checkbox"/> Perianth: colour of hairs	white	white	white
<input type="checkbox"/> Perianth: length	short to medium	medium	medium
<input type="checkbox"/> Perianth: width	medium	medium	medium

<input type="checkbox"/> Perianth: ratio length/width	medium	medium	medium
<input type="checkbox"/> Perianth: coherence of tepals on dorsal side	less than one third	less than one third	less than one third
<input type="checkbox"/> Perianth: coherence of tepals on ventral side	less than one third	less than one third	less than one third
<input type="checkbox"/> Tepal: flanging at margin	weak	weak	weak
<input checked="" type="checkbox"/> Nectary: colour	yellow	white	yellow
<input type="checkbox"/> Ovary: colour	white	white	white
<input type="checkbox"/> Ovary: hairiness	strong	strong	strong
<input checked="" type="checkbox"/> Style: colour	red	orange	orange
<input type="checkbox"/> Style: curvature (after anthesis before dehiscence of perianth)	gently curved	gently curved	gently curved
<input type="checkbox"/> Style: position of curve	top half	top half	top half
<input type="checkbox"/> Style: hairiness	absent or very weak	absent or very weak	absent or very weak
<input type="checkbox"/> Pistil: length	long	long	long
<input type="checkbox"/> Pistil: length in relation to length of perianth	much longer	much longer	much longer
<input type="checkbox"/> Stigma: colour	yellow	yellow	yellow
<input type="checkbox"/> Pollen presenter: attitude to style	lateral	lateral	lateral
<input type="checkbox"/> Pollen presenter: colour	yellow	yellow	yellow
<input type="checkbox"/> Pollen presenter: shape	cone	cone	cone
<input type="checkbox"/> Pollen: colour	yellow	yellow	yellow

Prior Applications and Sales

No prior applications. First sold in Australia in Jun 2006 under the name Grevillea 'Blood Orange'.

Description: **Ian Paananen**, Crop & Nursery Services, Central Coast, NSW