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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

**TECHNICAL WORKING PARTY ON AUTOMATION AND
COMPUTER PROGRAMS**

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ON-LINE INTERACTIVE VARIETY DESCRIPTION SYSTEM (IVDS)

Document prepared by experts from Australia



Australian Government
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Online Interactive Variety Description System (IVDS)

○ *Nik Hulse, Senior Examiner, Plant Breeder's Rights*

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Plant Breeders Rights Interactive Variety Description System Administration - Microsoft Internet Explorer

Address: https://pbr-ivds.ipaustralia.plantbreeders.gov.au/pbr_ivds/admin/

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[Forgotten Your Password?](#)

Plant Breeders Rights

Your username is your e-mail address recorded in PBR database. Your password is already e-mailed to you. You will need your user name and password to enter into the system. You will be able change your password once you have logged into the system.

Please Log In

Username:

Password:

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What is IVDS?

- An online system to describe plant varieties from a DUS trial
- Controlled system, providing harmonised descriptions
- Used by technical experts to remotely submit descriptions
- PBR Office controls work flow

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File Edit View Favorites Tools Help

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Application Selection

Welcome Jeff Miller

Output a **datasheet** in excel. You can choose a datasheet based on a specific technical guideline/descriptor. It facilitates to collect data from the trial using harmonized terminology.

Plant Breeder's Rights **Interactive Variety Description System (IVDS)** helps you to submit your detailed variety descriptions using harmonised terminology. You will need your comparative data and/or overseas report to complete this process. You will also need information on trial details, origin and breeding, grouping characteristics and the choice of comparator.

The system allows you to access the relevant technical guideline/descriptor and enter data with harmonized states of expressions from drop-down menus. Further, if required, you are able to build additional characteristics to describe your variety and to enter statistical data. Once all the data is entered, you can review the description, nominate those characteristics that clearly distinguish your variety from the comparator(s), save and print the description for further work or submit it to the PBR office for publication.

Please continue to submit other elements of the **Part 2 Application Form** in hard copy.

Select an application from the menu below, click **Select and Continue**, and follow the step by step prompts to complete the information according to menus provided (examples and guidance are featured).

Monitor your progress on the bar which appears on top of each page. Please note before submitting an application you can save your work at any stage.

Should you require assistance please call 1300 65 10 10 (9am -5pm, Monday- Friday) or send an e-mail to pbr@ipaustralia.gov.au.

2001/060 Broadway

- 1992/187 GRASSLANDS PRESTIGE
- 1992/189 GRASSLANDS DEMAND
- 1988/107 GRASSLANDS SUSTAIN
- 1996/002 GRASSLANDS SIMMONS
- 1996/017 CERES TONIC
- 1996/036 Grasslands Torlesse
- 1996/037 GRASSLANDS KAITUNA
- 1947/013 AR1
- 1997/111 AR501
- 1998/080 Grasslands Bounty
- 1998/086 GRASSLANDS VISION
- 1999/126 Grasslands Neutral
- 1999/198 AR542
- 2000/008 Dorset
- 2001/048 Sensation
- 2002/012 Puna II
- 2002/013 Choice
- 2002/091 Crossway
- 2002/206 Tribute
- 2006/004 AR37
- 2006/219 Resolute II
- 2006/220 Quantum II
- 2006/227 Quest
- 2007/041 BQT II
- 2007/050 One50
- 2008/217 AR364

Done Internet

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Enter Details of Application

The "Progress Bar" above indicates your current position in the system. Once a page is completed and saved, the "Next" box at the bottom of the bar is lit blue. You may go back to previous pages by clicking the "Previous" blue box on the bar. Because of the way the system collects information, you need to use the "Save and Continue" button at the bottom of the data screens each time you want to move forward to the next page. Using these controls you can go back and forward as often as you like.

The basic data for the application is already filled in for you automatically. You will now need to enter the details of the Comparative Trial in the relevant field. Once you have done this the "Save and Continue" button.

Details of Application

Application Number: 2002/060
 Variety Name:
 Genus Species:
 Common Name:
 Synonym:
 Associated Date: 26 Feb 2002
 Applicant: AgResearch Limited
 Agent:
 Qualified Person:
 Author of Description:

Details of Comparative Trial

Onset Date Reference Number:
 Location:
 Description/TG:
 Period:
 Conditions:

Trial Design

Measurements:
 EMS Check - editor:
 Origin and Breeding:

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Choice of Comparators

In this page indicate the "Grouping Characteristics" used in identifying the most similar varieties of common knowledge. For example, if you are grouping the varieties on the basis of yellow flower colour, then you will need to enter "Flower" in the Organ/plant part field, "Colour" in the context field and "Yellow" in the State of expression in group varieties field. You will need to hit the "Submit" button once you have entered the information in the relevant fields. If you need to add more grouping characteristics then enter the required information in the relevant fields and hit "Submit" button again. You can also delete a grouping characteristic by using the "Delete" button. Once you have entered all your grouping characteristics hit "Save and continue" button

Characteristic* used for grouping varieties to identify the most similar Variety of Common Knowledge	State of Expression in Group of Varieties												
<table border="1"> <tr> <td>Organ/Plant Part*</td> <td>Context*</td> <td>State of Expression in Group of Varieties</td> </tr> <tr> <td><input type="text" value="Plant"/></td> <td><input type="text" value="Flower colour"/></td> <td><input type="text" value="yellow"/></td> </tr> <tr> <td colspan="3" style="text-align: right;"><input type="button" value="Submit"/></td> </tr> </table>	Organ/Plant Part*	Context*	State of Expression in Group of Varieties	<input type="text" value="Plant"/>	<input type="text" value="Flower colour"/>	<input type="text" value="yellow"/>	<input type="button" value="Submit"/>						
Organ/Plant Part*	Context*	State of Expression in Group of Varieties											
<input type="text" value="Plant"/>	<input type="text" value="Flower colour"/>	<input type="text" value="yellow"/>											
<input type="button" value="Submit"/>													
<table border="1"> <tr> <td>Organ/Plant Part*</td> <td>Context*</td> <td>State of Expression in Group of Varieties</td> <td>Delete</td> </tr> <tr> <td><input type="text" value="Plant"/></td> <td><input type="text" value="time of maturity"/></td> <td><input type="text" value="medium"/></td> <td><input type="button" value="Delete"/></td> </tr> <tr> <td><input type="text" value="Plant"/></td> <td><input type="text" value="growth habit"/></td> <td><input type="text" value="prostrate"/></td> <td><input type="button" value="Delete"/></td> </tr> </table>	Organ/Plant Part*	Context*	State of Expression in Group of Varieties	Delete	<input type="text" value="Plant"/>	<input type="text" value="time of maturity"/>	<input type="text" value="medium"/>	<input type="button" value="Delete"/>	<input type="text" value="Plant"/>	<input type="text" value="growth habit"/>	<input type="text" value="prostrate"/>	<input type="button" value="Delete"/>	
Organ/Plant Part*	Context*	State of Expression in Group of Varieties	Delete										
<input type="text" value="Plant"/>	<input type="text" value="time of maturity"/>	<input type="text" value="medium"/>	<input type="button" value="Delete"/>										
<input type="text" value="Plant"/>	<input type="text" value="growth habit"/>	<input type="text" value="prostrate"/>	<input type="button" value="Delete"/>										

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Most Similar Varieties of Common Knowledge Identified (VCK)

Identifying and including the most similar Varieties of Common Knowledge (VCK) is the most crucial part of the comparative trial. On the basis of the grouping characteristics that you have included on the previous page, name the most similar varieties of common knowledge in the "Variety" field. You can put your comments (optional) next to the variety name. Once you have entered the information in the relevant fields hit the "Submit VCK" button. You will need to hit the "Submit VCK" each time you enter a variety of common knowledge. You will see a list of VCKs as you enter the information. You can also delete them as necessary by using the "Delete" button. Once complete with the list, hit the "Save and continue" button.

Variety	Comments
Grasslands Turca	This variety is the seed parent
<input type="button" value="Submit VCK"/>	

Name	Comments	Delete
Grasslands Hamua	This variety has common parentage to the candidate	<input type="button" value="Delete"/>
Grasslands Colenso	This variety has common parentage to the candidate and is the most similar variety	<input type="button" value="Delete"/>

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Varieties of Common Knowledge identified and subsequently excluded - (Optional)

This page is optional, but it helps you to identify some varieties, which you may have initially considered as comparators but were excluded from the trial. Name the varieties you have excluded, with their distinguishing characteristics. For example, you may have excluded a variety because of its taller plant height than the candidate variety; in that case, enter "name of the variety" in the Variety field, "Plant" in the Organ/plant part field, "height" in the context field, then "Short" in the State of expression in the candidate variety field and "Tall" in the State of expression in the comparator variety field. You will need to hit the "Submit Exclusion" button once you have entered the data. Once you have submitted all your exclusions hit the "Save and continue" button.

Variety	Organ/Plant Part*	Context*	State of Expression in Candidate Variety	State of Expression in Comparator Variety	Comments
Redwest	Plant	time of maturity	medium	very late	This variety was excluded because of its difference in time of maturity
<input type="button" value="Submit Exclusion"/>					

Varieties of Common Knowledge identified above and subsequently excluded	Organ/Plant Part*	Context*	State of Expression in Candidate Variety	State of Expression in Comparator Variety	Comments	Delete
Renegade	Plant	growth habit	prostrate	erect	This variety was initially considered because of its difference in growth habit	<input type="button" value="Delete"/>

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Descriptors/Technical Guidelines

There are more than 230 technical guidelines/descriptors currently available in the system. They are listed alphabetically by their common names and can be accessed by the drop down menu. For the ease of finding the relevant guideline, type the first letter of the common name of the species and the system will take you to the top of alphabetic listing for that letter.

If you do not have a guideline listed in the system, then you can choose the one called "General Descriptor". This descriptor has been designed to accommodate a wide range of genus and species. Therefore, all characteristics listed in the general descriptor may not be relevant for your species, select the characteristics, which are appropriate in your case.

Alternatively, if there is no guideline for your species, you can also choose a guideline/descriptor which you think is close enough for your species.

Once you have selected your technical guideline/descriptor, hit the "Select Relevant Descriptor/ TG" button.

You have currently selected **Red Clover (*Trifolium pratense*)** if you change the Descriptors/ Technical Guideline and continue all information for comparators will be reset.

Select Relevant Descriptor/TG

- Red Clover (*Trifolium pratense*)
- Red Clover (*Trifolium pratense*)
- Regal Pelargonium (*Pelargonium grandiflorum*)
- Rescue Grass/*Alactia Bromus-grass/Bromus auleticus (Bromus catharticus/B. citharisticus/B. auleticus)*
- Rhododendron (*Rhododendron*)
- Rhubarb (*Rheum rhabarbarum*)
- Rice (*Oryza sativa*)
- Rose (*Rosa hybrid*)
- Rosemary (*Rosemarinus officinalis*)
- Runner Bean (*Phaseolus coccineus*)
- Rye (*Secale cereale*)
- Ryegrass (*Lolium spp.*)

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Record of Observations on Candidate Variety - Red Clover (*Trifolium pratense*)

Choose the appropriate **State of expressions** for the **Candidate** variety using the drop-down menu. You will need to choose the characteristics for which data has been recorded in the comparative trial; the non-recorded characteristics can be left blank.

If there is no drop-down menu for a particular characteristic, then it is a "free-text" box. You can type your data in the box (eg. RHS colour codes). Once you have entered data for all your recorded observations hit the "Save and continue" button.

Descriptor/TG Characteristics	Organ/Plant Part	Context	State of Expression
1	Seed	colour of coat	yellow
2	Ploidy		tetraploid
3	Cotyledon	length	violet
4	Cotyledon	width	multicoloured
5	Plant	natural height in the year of sowing	medium
6	Leaf	colour in the year of sowing	light green to medium green
7	Plant	growth habit in autumn of year of sowing	prostrate
8	Plant	tendency to flower in the year of sowing	medium
9	Plant	natural height in spring	medium
10	Leaf	intensity of green colour in spring	medium
11	Time of	flowering	medium
12	Stem	length	medium
13	Stem	thickness	thin
14	Stem	number of internodes	medium
15	Stem	density of hairs	high
16	Leaf	shape of medial leaflet	ovate
17	Leaf	length of medial leaflet	medium
18	Leaf	width of medial leaflet	medium
19	Leaf	intensity of white marks	strong
20	Plant	natural height in aftermath	medium

Save and Continue

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Build Characteristics Additional to the Descriptor/TG

In this page you can build characteristics in addition to the descriptor/technical guidelines. If you have recorded a characteristic, which is not available in the relevant descriptor/technical guideline, then you will need to add it in the system with its full state of expressions.

For example, if you have recorded a new characteristic called **Staminal bundle width**, which is not available in the relevant descriptor/technical guidelines then you will need to write "Staminal bundle" in the **Organ/Plant Part** field, "width" in the **Context** field and then in the next field you will need to give the **Set of state of expressions** of this characteristic as comma delimited, which may be "narrow, medium, broad". It is important that the set of state of expressions are entered as comma delimited. Once you have entered the required information for your newly build characteristic hit the "Build Characteristics" button. You will then see the newly build characteristic with its full set of state of expressions appearing in this page. Now choose the appropriate state of expression for the candidate variety from the drop down menu and hit the "Save and continue" button.

Characteristic	Organ/Plant Part	Context	Set of States of Expression for Characteristic
			Please enter values comma delimited
leaf	markings	very low,low,medium,?	<input type="button" value="Build Characteristics"/>

Record of Observations on Candidate Variety

Organ/Plant Part*	Context*	Set of States of Expression for Characteristic	Delete
Stem	density	medium	<input type="button" value="Delete"/>
Leaf	markings	medium	<input type="button" value="Delete"/>

very low
low
medium
high
very high

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Statistical Table for the Candidate

This page is for recording the statistical data for the candidate variety in respect to measured characteristics. Once you have entered the data for **mean, std deviation, LSD and units of measurements** in the relevant fields hit the "Submit statistical data" button. When you have completed submitting the statistical data for all the measured characteristics hit the "Save and continue to Comparator Varieties" button to progress to the comparator(s).

If you do not have any quantitative data recorded in the comparative trial then leave all the field blanks and hit the "Save and continue to Comparator Varieties" button.

Organ/Plant Part	Context	Numerical Data		
Leaf	length	Mean	26.3	Units of Measurement
		Std. Deviation	4.8	mm
		LSD/Sig.	2.5	

Organ/Plant Part*	Context*	Mean	Std. Deviation	LSD/Sig.	Delete
Stem	length	64.70 cm	11.90 cm	6.5	<input type="button" value="Delete"/>
Stem	thickness	3.15 mm	0.44 mm	0.33	<input type="button" value="Delete"/>

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Select an existing Comparator

Select an existing Comparator

Grasslands Hamua Select
Grasslands Colenso

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Record of Observations on Comparator Variety

This page will allow you to record observations on comparator varieties.

The name of the comparator is automatically entered for you. Now choose the appropriate state of expressions using the drop-down menu, which is relevant for that comparator variety.

You will only see those characteristics that you have originally chosen for the candidate variety. The non-recorded characteristics for the candidate will not appear in this page.

Once you have recorded your observations for the comparator variety, hit the "Save and continue" button.

Characteristic	Comparator Name:	Grasslands Hamua	
#	Organ/Plant Part	Context	State of Expression
1	Seed	colour of coat	yellow
2	Ploidy		diploid
3	Cotyledon	length	short
4	Cotyledon	width	very narrow to narrow
5	Plant	natural height in the year of sowing	medium
6	Leaf	colour in the year of sowing	medium green to dark green
7	Plant	growth habit in autumn of year of sowing	prostrate
8	Plant	tendency to flower in the year of sowing	weak
9	Plant	natural height in spring	medium
10	Leaf	intensity of green colour in spring	very light
11	Time of	flowering	medium
12	Stem	length	medium
13	Stem	thickness	medium
14	Stem	number of internodes	medium to high
15	Stem	density of hairs	medium to high
16	Leaf	shape of medial leaflet	ovate
17	Leaf	length of medial leaflet	short
10	Leaf	width of medial leaflet	narrow
19	Leaf	intensity of white marks	medium to strong
20	Plant	natural height in aftermath	medium

Save and Continue

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Record Observations on the Comparator - Grasslands Hamua

Now, the system will allow you to record the observation on the **additional characteristics** on the comparator variety. The additional characteristics were built earlier in the session. Using the drop-down menu, you can choose the relevant state of expression for each additional characteristic in respect to the comparator variety.

Once you have recorded your observations for the comparator variety, hit the **"Save and continue"** button.

Organ/Plant Part*	Context*	Set of States of Expression for Characteristic
Stem	density	medium
Leaf	markings	very high

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Statistical Table for the Comparator - Grasslands Hamua

This page will allow you to record measured characteristics for the comparator variety. For each measured characteristics enter the **mean**, and **std deviation**. Depending on your LSD value you can either choose P 0.01 or ns for that mean value. Alternatively, if you are using a **Mean Separation** method from a multiple range test (DMRT, S-N-K etc.) then give the letter codes relevant for the mean value.

If you have completed recording observations for all the comparator varieties then hit the **"View Details"** button, otherwise you can hit the **"Submit Another Comparator"** button to record data for another comparator variety.

IntComp
IntComp

Organ/Plant Part	Context	Numerical Data	Units of Measurement
Stem	length	Mean	56.6
		Std. Deviation	16.0
		LSD/Sig.	ns
		Means Separation	
Stem	thickness	Mean	3.79
		Std. Deviation	0.60
		LSD/Sig.	P<=0.01
		Means Separation	P<=0.01

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Select an existing Comparator

Select an existing Comparator

- Grasslands Colenso
- Grasslands Hermao
- Grasslands Colenso

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Record of Observations on Comparator Variety

This page will allow you to record observations on comparator varieties.

The name of the comparator is automatically entered for you. Now choose the appropriate state of expressions using the drop-down menu, which is relevant for that comparator variety.

You will only see those characteristics that you have originally chosen for the candidate variety. The non-recorded characteristics for the candidate will not appear in this page.

Once you have recorded your observations for the comparator variety, hit the "Save and continue" button.

Characteristic	Comparator Name:	Grasslands Colenso
#	Organ/Plant Part	Context
1	Seed	colour of coat
2	Ploidy	
3	Cotyledon	length
4	Cotyledon	width
5	Plant	natural height in the year of sowing
6	Leaf	colour in the year of sowing
7	Plant	growth habit in autumn of year of sowing
8	Plant	tendency to flower in the year of sowing
9	Plant	natural height in spring
10	Leaf	intensity of green colour in spring
11	Time of	flowering
12	Stem	length
13	Stem	thickness
14	Stem	number of internodes
15	Stem	density of hairs
16	Leaf	shape of medial leaflet
17	Leaf	length of medial leaflet
18	Leaf	width of medial leaflet
19	Leaf	intensity of white marks
20	Plant	natural height in aftermath

Save and Continue

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Record Observations on the Comparator - Grasslands Colenso

Now, the system will allow you to record the observation on the **additional characteristics** on the comparator variety. The additional characteristics were built earlier in the session. Using the drop-down menu, you can choose the relevant state of expression for each additional characteristic in respect to the comparator variety.

Once you have recorded your observations for the comparator variety, hit the **"Save and continue"** button.

Organ/Plant Part*	Context*	Set of States of Expression for Characteristic
Stem	density	low
Leaf	markings	very low

Save and Continue

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Statistical Table for the Comparator - Grasslands Colenso

This page will allow you to record measured characteristics for the comparator variety. For each measured characteristics enter the **mean**, and **std deviation**. Depending on your LSD value you can either choose P 0.01 or ns for that mean value. Alternatively, if you are using a **Mean Separation** method from a multiple range test (DMRT, S-N-K etc.) then give the letter codes relevant for the mean value.

If you have completed recording observations for all the comparator varieties then hit the **"View Details"** button, otherwise you can hit the **"Submit Another Comparator"** button to record data for another comparator variety.

Organ/Plant Part	Context	Numerical Data	Units of Measurement
Stem	length	Mean	60.7
		Std. Deviation	15.6
		LSD/Sig.	ns
		Means Separation	
Stem	thickness	Mean	3.60
		Std. Deviation	0.51
		LSD/Sig.	P <= 0.01
		Means Separation	P <= 0.01

Submit Another Comparator

View Details

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View Details for Broadway

This page gives you the option to **View Details** of the recorded data. If you are satisfied with your data entry and satisfied with the description then submit the application to the PBR office by hitting **"Send to PBR"** button. Once you proceed you will not be able to amend the current application.

Alternatively, you can submit another comparator variety by hitting the **"Submit Another Comparator"** button. This will take you back into the system.

After submitting the application you can keep a record of your description by clicking **"Output a copy as a Word document for your records"** in the following page. This will generate a word description of the variety.

Details of Application	
Application Number	2001/060
Variety Name	Broadway
Genus Species	Trifolium pratense
Common Name	Red Clover
Synonym	
Accepted Date	16-Mar-2001
Applicant	AgResearch Limited
Agent	David Ryan & Byron Angelopulo of Baker and McKenzie (Solicitors)
Qualified Person	Jeffrey Miller
Author of Description	Jeffrey Miller

Details of Comparative Trial	
Overseas Testing Authority	OS test report only
Overseas Data Reference Number	OS test report only
Location	AgResearch Grasslands Research Centre, Palmerston North, New Zealand
Descriptor	UPOV TG for Red Clover
Period	autumn-summer 2000/200
Conditions	plants raised from seed sown on 22/3/00 in seed flats in controlled glasshouse conditions. Plants trimmed on 28/4/00 to enhance establishment and placed in the open for hardening. Plants transplanted into open field site on 8/7/00 at 60cm between plants and 120cm between plots.
Trial Design	randomised block 10 plots of 10 plants of each

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Trial Design	randomised block 10 plots of 10 plants of each variety arranged in a completely randomised design in each block from all trial plants				
Measurements	RHS Chart - edition				
Origin and Breeding	Recurrent Phenotypic selection: seven cycles of selection within and between 27 variable populations originating from Spain and Portugal collected by Grasslands staff in 1986. The original population was characterised by less prostrate/non spreading plant habit, smaller and more variable leaf and moderately high formononetin levels. Repeated selection for spreading growth habit, leaf size and formononetin levels produced breeding lines, which were then evaluated for seed production potential. From these lines, a uniform single line known as GF68 was selected to become 'Broadway'. Selection criteria: growth habit, larger leaf size, uniformity and seed production. 'Broadway' differs from original source material in characters used for selection criteria. Propagation: by seed. Breeder: Dr W. (Bill) Rumball, Palmerston North, New Zealand.				
Choice of Comparators	State of Expression in Group of Varieties				
Characteristic* used for grouping varieties to identify the most similar Variety of Common Knowledge					
Organ/Plant Part	Context				
Plant	time of maturity	medium			
Plant	growth habit	prostrate			
Most Similar Varieties of Common Knowledge identified (VCK)					
Name	Comments				
Grasslands Hamua	This variety has common parentage to the candidate				
Grasslands Colenso	This variety has common parentage to the candidate and is the most similar variety				
Varieties of Common Knowledge identified above and subsequently excluded					
Variety	Distinguishing Characteristic	State of Expression in Candidate Variety	State of Expression in Comparator Variety	Comments	
	Organ/Plant Part	Context			
Renegade	Plant	growth habit	prostrate	erect	This variety was initially considered because of its difference in growth habit
Guideline	Red Clover (Trifolium pratense)				

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Variety Description and Distinctness - Tick characteristics which distinguish the candidate from one or more of the comparators

Organ/Plant Part: Context	Broadway	Grasslands Colenso	Grasslands Hamua
<input type="checkbox"/> Seed: colour of coat	yellow	yellow	yellow
<input type="checkbox"/> Ploidy:	diploid	diploid	diploid
<input type="checkbox"/> Cotyledon: length	medium	short to medium	short
<input checked="" type="checkbox"/> Cotyledon: width	medium	medium	very narrow to narrow
<input checked="" type="checkbox"/> Plant: natural height in the year of sowing	medium	short	medium
<input checked="" type="checkbox"/> Leaf: colour in the year of sowing	light green to medium green	light green	medium green to dark green
<input type="checkbox"/> Plant: growth habit in autumn of year of sowing	prostrate	prostrate	prostrate
<input type="checkbox"/> Plant: tendency to flower in the year of sowing	medium	weak to medium	weak
<input type="checkbox"/> Plant: natural height in spring	medium	short to medium	medium
<input checked="" type="checkbox"/> Leaf: intensity of green colour in spring	medium	light to medium	very light
<input type="checkbox"/> Time of: flowering	medium	early	medium
<input checked="" type="checkbox"/> Stem: length	medium	short	medium
<input checked="" type="checkbox"/> Stem: thickness	thin	thin	medium
<input checked="" type="checkbox"/> Stem: number of internodes	medium	low	medium to high
<input type="checkbox"/> Stem: density of hairs	high	low	medium to high
<input type="checkbox"/> Leaf: shape of medial leaflet	ovate	ovate	ovate
<input checked="" type="checkbox"/> Leaf: length of medial leaflet	medium	short to medium	short
<input type="checkbox"/> Leaf: width of medial leaflet	medium	narrow	narrow
<input checked="" type="checkbox"/> Leaf: intensity of white marks	strong	medium	medium to strong
<input checked="" type="checkbox"/> Plant: natural height in aftermath	medium	medium to high	medium

Organ/Plant Part: Context	Broadway	Grasslands Colenso	Grasslands Hamua
Stem: density	medium	low	medium
Leaf: markings	medium	very low	very high

Organ/Plant Part: Context	Broadway	Grasslands Colenso	Grasslands Hamua
Stem: length			
Mean	64.70	60.70	66.60
Std. Deviation	11.90	15.60	18.00
Lsd/sig	6.5	ns	ns
Means Separation			
Stem: thickness			
Mean	3.15	3.60	3.79
Std. Deviation	0.44	0.51	0.60
Lsd/sig	0.33	P<=0.01	P<=0.01
Means Separation			

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Future work

- could be useful as a tool for assisting in the selection of reference varieties for a DUS trial
- filtering on grouping characteristics
- could be used in developing/revising test guidelines
- can include information on same variety grown in different locations or years



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Thank you



[End of document]