

The Australian Pome Fruit Improvement Program Ltd.

Variety Report 2012



**The Australian Pome Fruit
Improvement Program Ltd.**



Horticulture Australia

APFIP, Your Industry-Owned Company.



Australian Pome Fruit Improvement Program Ltd (APFIP) was established in February 1997 by the Australian Apple and Pear Growers Association Inc (which from 2002, became Apple and Pear Australia Ltd – APAL) for the benefit of the Australian apple and pear (pome fruit) industry.

APFIP is a not-for-profit company with a board of three directors who work in the pome fruit or nursery industries. Apple and pear growers fund APFIP along with a matching contribution from the Australian government via Horticulture Australia Ltd. The main functions of APFIP are to:

- Develop and promote standards for pome fruit material.
- To introduce prompt and secure access to new pome fruit varieties and rootstocks through efficient post entry quarantine protocols.
- Evaluate varieties and rootstocks throughout different growing regions.

APFIP operates an independent, secure and efficient evaluation network, which encompasses most major temperate tree fruit growing regions of Australia. Effective evaluation is vital as it gives growers information they require to make balanced decisions on variety choice for their operations.

Facilitate and promote efficient quarantine services

Pome fruit budwood is classified as high security because of the risk of introducing fire blight and other exotic pests and diseases. This material can only enter the country through an AQIS accredited Government operated post-entry quarantine station. A review of the pome fruit budwood protocols was completed in February 2002, which led to changes to the quarantine testing protocols resulting in a reduction of the post-entry quarantine time from four years to 15 months.

Multiplication of selected budwood and rootstocks

APFIP has established a new repository for its certified varieties and rootstocks near Cambridge in southern Tasmania. The site has access to ample water supplies and is isolated from the pome fruit production areas. It has an ideal climate for the trueness to type assessment of heat-treated varieties and rootstocks. APFIP will again offer rootstocks for sale, only in limited quantities but fully certified.



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This project was facilitated by HAL in partnership with Apple and Pear Australia Limited and is funded by the apple and pear levy. The Australian Government provides matching funding for Hal's R&D activities.



© registered certification trademark of APFIP.

Certification

APFIP is introducing its own Certification system for fruit tree propagating material, which will operate under this certification trademark.

The benefits of certified propagating material were highlighted in a research project completed in Australia in 1988 (L. Penrose et al) that compared the performance of three apple cultivars (Jonathon, Richared Delicious & Granny Smith) propagated from using budwood and rootstocks from a virus-tested scheme with trees propagated from sources known to be latently infected with viruses and a mycoplasma.

Over a 3-season period;

- Virus tested Jonathon trees out yielded infected trees by 56 per cent,
- Virus tested Richared Delicious out yielded infected trees by 40 per cent,
- Virus tested Granny Smith by 41 per cent.

Certified nursery trees will meet 3 criteria; they test negative for viruses (apple stem grooving, apple stem pitting, apple mosaic and apple chlorotic leaf spot), are true to type and satisfy minimum nursery tree standards.

Certified nursery trees will be available through the following APFIP Trademark licensees:

Olea Nursery	Mitcheldean Road WEST MANJIMUP WA 6258	08 9772 1207
Tahune Fields Nursery	Lucaston Road LUCASTON, TAS 7109	03 6266 4474
Tangara Nursery	40 Pages Road GROVE, TAS 7109	03 6266 4364
Hansen Orchards	Basin Road, GROVE TAS 7109	03 6264 0200
Mount View Orchards	272 Old Tumbarumba Road BATLOW NSW 2730	02 6949 1765
Balhannah Nurseries	Coldstore Road LENSWOOD SA 5240	08 8389 8600
Topstock Investments	Main Ridge Red Hill South VIC 3928	03 5989 6257
Little Tree Company	261 Hays Road, KATUNGA VIC 3640	0458 646390

Visit the APFIP website www.apfip.com

This Variety Report briefly outlines some of the apple and pear variety reports available to fruit growers on the www.apfip.com website. The APFIP website is also a valuable source of information of varieties, industry news and information as well as certification information on

rootstocks, budwood and nursery trees. Also, on the page 11 of this Variety Report is a sample Weather Report, which shows the data available for most pome fruit growing regions of Australia.

Variety Reports - an explanation



Variety Data Reports

There are many characteristics that need to be considered when assessing the potential of a new variety.

These considerations include:

- Flowering and cropping characteristics
- Tree characteristics.
- Fruit appearance.
- Eating Qualities.
- Storage ability.
- Disease Rating

The variety testing work of APFIP draws together the results of observations on all these characteristics and presents them in reports generated in real time on the APFIP website. This document contains a small sample of the reports that are available on the website at <http://apfip.com.au/evaluation/database.cfm>

A Variety Data Report can be reviewed individually, collectively, or in combinations of rootstock, growing region, and season.

Reports can be generated in the following formats:

Variety Character Reports:

These show comprehensive groupings of variety characters on an individual page. Variety Character Reports show the sum of all data taken from a site/sites and presented against listed data fields.

Summary Reports:

These show an abbreviated selection of data taken from the sum of all data from a site/sites. Not all data fields are represented. Data fields listed on summary reports will show either:

- Percentages based on all data against check boxes.
- Percentages based on High, Average, Low lodgements of data in data fields.

Highest, average and lowest ratings that show the highest and lowest measured data and an average of all data. Numbers in brackets () listed next to data field listings are the total number of data inputs in this particular data field.

Disease Rating Report:

These reports summarise data on pest/disease/disorders observed on a variety. They do not necessarily show a variety's propensity to disease, unless consistent and frequent observations are made, which are supported by spray/weather records.

Media Report:

Including some graphs and photos these reports give a "snap-shot" outline (not comprehensive) of a variety's performance.

Photographs:

An array of variety photographs in high, medium or low resolution can be selected for viewing or downloading.

Definitions of some selected data fields:

Some fields are best estimates based on an observer's experience i.e. shelf life, overall eating rating, overall fruit appearance. For these, observers are given training to try to get consistency, but these are still subjective measures. Observers follow strict procedures and observances based on forms completed for appropriate growth/maturity periods and complete all data fields.

Measurements:

Both fruit length and width are diameter measurements in millimetres where a fruit is measured longitudinally and latitudinally respectively. Fruit pressure is measured by a penetrometer in kg/m³ – an 8mm tip for pears, and an 11mm tip for apples. Total Soluble Solids (%) is measured in degrees brix by refractometer. One-year shoot diameter is measured 10mm from initial point of one-year growth. Average tray count is based upon the Australian Standard 12kg tray pack carton. Gram weights for fruit packed in a 12kg carton are the same for an 18kg carton. The carton tray count conversion table is shown below:

12kg 3-layer Tray-Pack carton count size	Minimum gram weight	18kg 3-layer Tray-Pack carton count size
45	250	60
53	225	70
60	200	80
68	180	90
75	163	100
83	150	110
90	120	165
108	105	180

Important notes:

These reports are live reports and are updated daily, so data will change regularly. Low numbers of data entries per field may reduce the accuracy of reports and skew percentages. Sample size must be large enough to build a reasonable variety profile. APFIP Ltd reports cannot be edited by persons unauthorised, and can only be published in an unedited format. All APFIP Variety Reports are the result of at least 3 years (seasons) of data collection.

Variety reports are available on the following varieties at www.apfip.com

Apples: Caudle, Fiero, Fuji Naga Fu2&6, Gala TF&Royal, GoldenDelicious, Cripps Pink, Rubinstar, Sunrise, Nova, Svatava, Topaz, Sansa, Myra, Snyder and Crimson Snow.

Pears: Bittura Precoce Morettini, Eldorado, Howell, Rogue Red and Red Clapps.



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Variety Reports - How to read them.



Report Type

The evaluation database (<http://apfip.com.au/evaluation/database.cfm>) produces reports based on the following criteria:

- Variety
- Rootstock (all recorded rootstocks can be selected)
- Region (all recorded regions can be selected)
- Season (all recorded seasons can be selected)

Fruit Size

Average fruit size and weight is calculated from all the data recorded for the selection criteria. Average tray count is based upon the Australian Standard 12kg tray pack carton. Gram weights for fruit packed in a 12kg carton are the same for an 18kg carton. A carton tray count conversion table is available for viewing at www.apfip.com

Total Soluble Solids (TSS) and Fruit Pressure

Testing is done postharvest using refractometer to determine degrees brix. The fruit is also pressure resistance tested at this time using a penetrometer (11mm for apples, 8mm for pears). These data fields are displayed with average and highest and lowest values.

Tree Growth Characteristics

(Trees Vigor)

Tree vigor characteristics are expressed as a percentage of records made against the available data fields, which are:

- Weak
- Medium
- Strong
- Very Strong

In this example all records (100%) rated growth as strong.

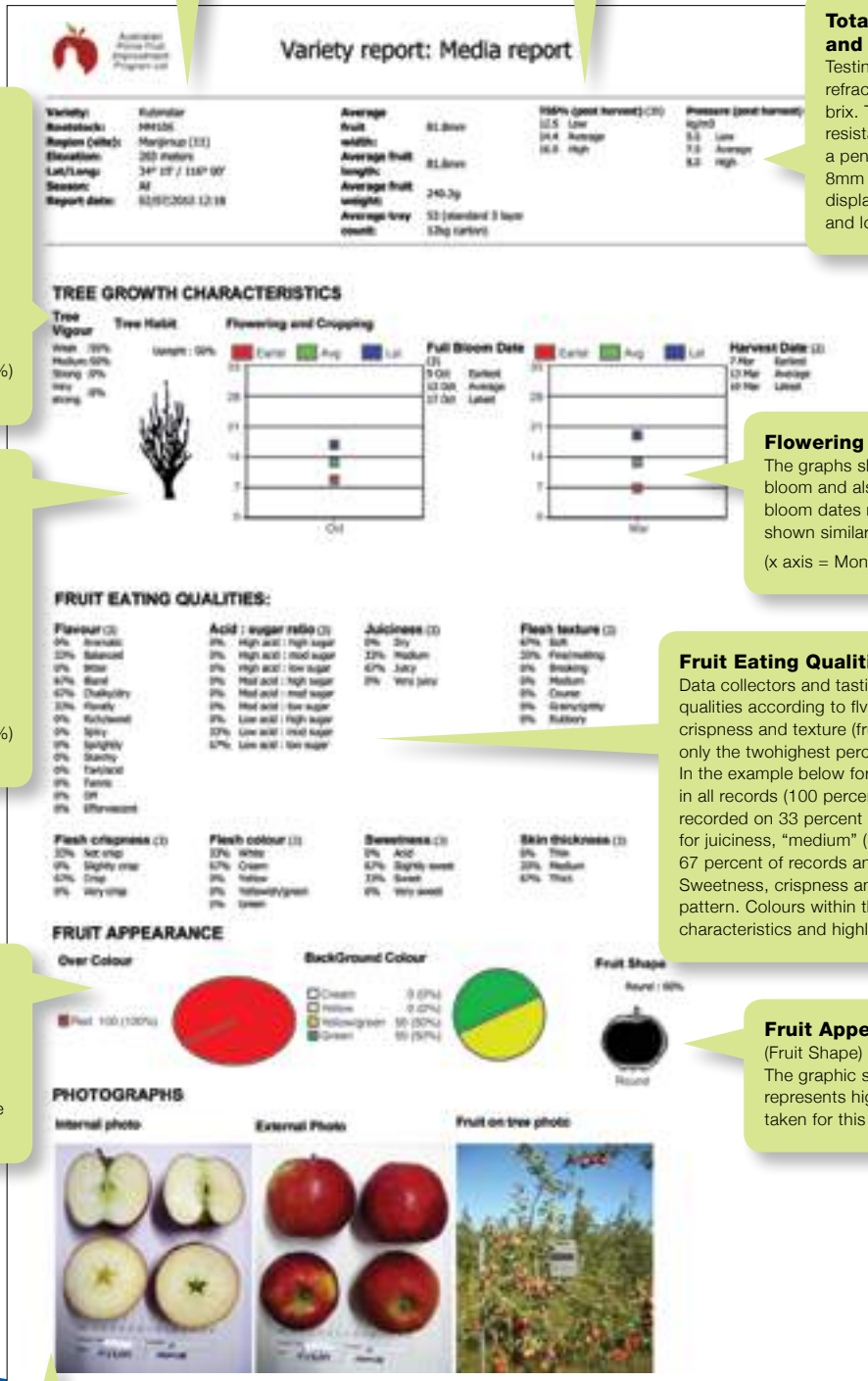
Tree Growth Characteristics

(Trees Habit)

Tree habit characteristics are expressed as a percentage of records made against the available data fields, which are:

- Strongly Upright
- Upright
- Spreading
- Weeping

In this example all records (100%) rated habit as upright.



Flowering and Cropping

The graphs show the median date of full bloom and also record the earliest and latest bloom dates recorded. Date of harvest is shown similarly.

(x axis = Month, y axis = day of the month)

Fruit Eating Qualities

Data collectors and tasting panels assess eating qualities according to flavour, juiciness, sweetness, crispness and texture (fruit flesh). The report records only the two highest percentages of each characteristic. In the example below for flavour "rich" was recorded in all records (100 percent), but "bland" was also recorded on 33 percent of samples. In the data fields for juiciness, "medium" (moderately juicy) was rated in 67 percent of records and "juicy" in percent of records. Sweetness, crispness and texture follow the same pattern. Colours within the graph represent different characteristics and highlight percentage records.

Fruit Appearance

(Overcolour)

(Background Colour)

Shown as a percentage records taken with appropriate colour displayed. Multiple colours may be displayed showing alternative data fields.

Fruit Appearance

(Fruit Shape)

The graphic shows the fruit shape, which represents highest percentage of records taken for this variety.

Photographs

Each report has three photo views. These are as follows:

- Fruit Internal
- Fruit on Template
- Fruit on Tree

These photos by default the latest shots taken within the selection criteria.



Variety report: Media report

Variety:	P205R130T109	Average fruit width:	76.5mm	TSS% (post harvest) (4)	11.9 Low	Pressure (post harvest) (4)	kg/m3
Rootstock:	D6	Average fruit length:	68.8mm		12.7 Average		2.9 Low
Region (site):	Goulburn Valley (1)	Average fruit weight:	236.0g		13.2 High		3.1 Average
Elevation:	187 M	Average tray count:	53 (standard 3 layer 12kg carton)				3.3 High
Lat/Long:	36° 18' / 145° 36'						
Season:	All						
Report date:	13/03/2012 11:36						

TREE GROWTH CHARACTERISTICS

Tree Vigour

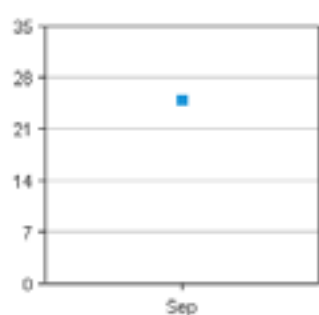
Weak :0%
Medium:0%
Strong :100%
Very strong :0%

Tree Habit

Upright : 100%

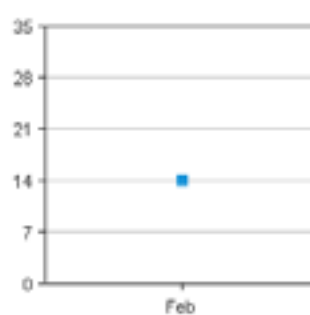


Flowering and Cropping



Full Bloom Date (1)

25 Sep Earliest
25 Sep Average
25 Sep Latest



Harvest Date (1)

14 Feb Earliest
14 Feb Average
14 Feb Latest

FRUIT EATING QUALITIES:

Flavour (1)

100% Aromatic
0% Balanced
0% Bitter
0% Bland
0% Chalky/dry
0% Florally
0% Rich/sweet
0% Spicy
0% Sprightly
0% Starchy
0% Tart/acid
0% Tannic
0% Off
0% Effervescent

Acid : sugar ratio (1)

0% High acid : high sugar
0% High acid : mod sugar
0% High acid : low sugar
0% Mod acid : high sugar
0% Mod acid : mod sugar
0% Mod acid : low sugar
0% Low acid : high sugar
100% Low acid : mod sugar
0% Low acid : low sugar

Juiciness (1)

0% Dry
0% Medium
0% Juicy
100% Very juicy

Flesh texture (1)

0% Soft
0% Fine/melting
0% Breaking
0% Medium
100% Course
0% Grainy/gritty
0% Rubbery

Flesh crispness (1)

0% Not crisp
0% Slightly crisp
0% Crisp
100% Very crisp

Flesh colour (1)

0% White
100% Cream
0% Yellow
0% Yellowish/green
0% Green

Sweetness (1)

0% Acid
0% Slightly sweet
100% Sweet
0% Very sweet

Skin thickness (1)

0% Thin
100% Medium
0% Thick

Continued...



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FRUIT APPEARANCE

Over Colour

Orange(%) Red(%)



100%

BackGround Colour

Cream - 0 (%)
Yellow - 0 (%)
Yellow/green - 100 (%)
Green - 0 (%)



Fruit Shape

Round oblate : 100%



Round-oblate

PHOTOGRAPHS

Internal photo



External Photo



Fruit on tree photo



Variety Reports - A022R14T153 (Honeymoon®)



Variety report: Media report

Variety:	A022R14T153	Average fruit width:	72.4mm	TSS% (post harvest) (30)	13.5 Low	Pressure (post harvest) (30)	kg/m3
Rootstock:	MM106	Average fruit length:	70.7mm		15.6 Average		7.2 Low
Region (site):	Goulburn Valley (1)	Average fruit weight:	182.8g		18.2 High		9.2 Average
Elevation:	187 M	Average tray count:	68 (standard 3 layer 12kg carton)				11.4 High
Lat/Long:	36° 18' / 145° 36'						
Season:	All						
Report date:	13/03/2012 11:32						

TREE GROWTH CHARACTERISTICS

Tree Vigour

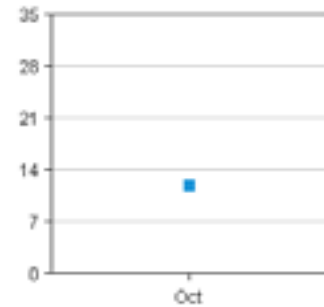
Weak :0%
Medium:33%
Strong :67%
Very strong :0%

Tree Habit

Spreading : 100%

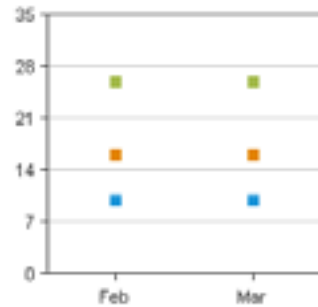


Flowering and Cropping



Full Bloom Date (1)

12 Oct Earliest
12 Oct Average
12 Oct Latest



Harvest Date (3)

16 Feb Earliest
26 Feb Average
10 Mar Latest

FRUIT EATING QUALITIES:

Flavour (3)

0% Aromatic
0% Balanced
0% Bitter
0% Bland
0% Chalky/dry
0% Florally
33% Rich/sweet
0% Spicy
100% Sprightly
0% Starchy
0% Tart/acid
0% Tannic
0% Off
0% Effervescent

Acid : sugar ratio (3)

33% High acid : high sugar
67% High acid : mod sugar
0% High acid : low sugar
0% Mod acid : high sugar
0% Mod acid : mod sugar
0% Mod acid : low sugar
0% Low acid : high sugar
0% Low acid : mod sugar
0% Low acid : low sugar

Juiciness (3)

0% Dry
0% Medium
67% Juicy
33% Very juicy

Flesh texture (3)

0% Soft
0% Fine/melting
0% Breaking
100% Medium
0% Course
0% Grainy/gritty
0% Rubbery

Flesh crispness (3)

0% Not crisp
0% Slightly crisp
0% Crisp
100% Very crisp

Flesh colour (3)

0% White
100% Cream
0% Yellow
0% Yellowish/green
0% Green

Sweetness (3)

0% Acid
0% Slightly sweet
33% Sweet
67% Very sweet

Skin thickness (3)

0% Thin
100% Medium
0% Thick

Continued...



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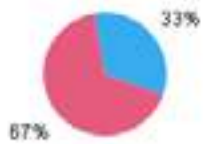
Variety Reports - A022R14T153 (Honeymoon®)



FRUIT APPEARANCE

Over Colour

- None(%)
- Pinkish / red(%)



BackGround Colour

- Cream - 0 (%)
- Yellow - 0 (%)
- Yellow/green - 100 (%)
- Green - 0 (%)



Fruit Shape

Round-conical : 100%



Round - conical

PHOTOGRAPHS

Internal photo



External Photo



Fruit on tree photo



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Variety Reports - RS103-130 (Kalei)



Variety report: Media report

Variety:	RS103-130	Average fruit width:	73.8mm	TSS% (post harvest) (70)	12.0 Low	Pressure (post harvest) (70)	kg/m3
Rootstock:	MM106	Average fruit length:	65.4mm		15.9 Average		8.2 Low
Region (site):	Goulburn Valley (1)	Average fruit weight:	187.4g		19.6 High		9.8 Average
Elevation:	187 M	Average tray count:	68 (standard 3 layer 12kg carton)				11.9 High
Lat/Long:	36° 18' / 145° 36'						
Season:	All						
Report date:	13/03/2012 11:42						

TREE GROWTH CHARACTERISTICS

Tree Vigour

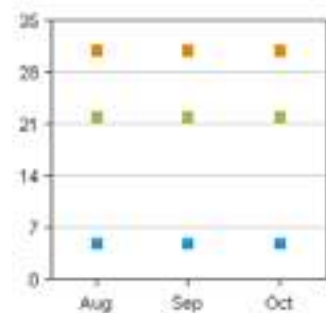
Weak :0%
Medium:33%
Strong :50%
Very strong :17%

Tree Habit

Spreading : 100%

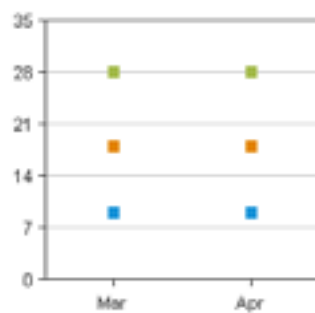


Flowering and Cropping



Full Bloom Date (3)

31 Aug Earliest
22 Sep Average
5 Oct Latest



Harvest Date (6)

18 Mar Earliest
28 Mar Average
9 Apr Latest

FRUIT EATING QUALITIES:

Flavour (6)

0% Aromatic
33% Balanced
0% Bitter
0% Bland
0% Chalky/dry
0% Florally
50% Rich/sweet
0% Spicy
17% Sprightly
17% Starchy
0% Tart/acid
0% Tannic
0% Off
0% Effervescent

Acid : sugar ratio (6)

17% High acid : high sugar
0% High acid : mod sugar
0% High acid : low sugar
0% Mod acid : high sugar
33% Mod acid : mod sugar
0% Mod acid : low sugar
0% Low acid : high sugar
17% Low acid : mod sugar
33% Low acid : low sugar

Juiciness (6)

0% Dry
50% Medium
33% Juicy
17% Very juicy

Flesh texture (6)

0% Soft
0% Fine/melting
0% Breaking
83% Medium
17% Course
0% Grainy/gritty
0% Rubbery

Flesh crispness (6)

0% Not crisp
0% Slightly crisp
17% Crisp
83% Very crisp

Flesh colour (6)

0% White
33% Cream
17% Yellow
50% Yellowish/green
0% Green

Sweetness (6)

0% Acid
33% Slightly sweet
33% Sweet
33% Very sweet

Skin thickness (6)

17% Thin
67% Medium
17% Thick

Continued...



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Variety Reports - RS103-130 (Kalei)



FRUIT APPEARANCE

Over Colour



BackGround Colour

Cream - 0 (%)
Yellow - 0 (%)
Yellow/green - 33.3333333333 (%)
Green - 66.6666666667 (%)



Fruit Shape

Round-conical : 67%



Round - conical

PHOTOGRAPHS

Internal photo



External Photo



Fruit on tree photo



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Variety report: Media report

Variety:	Fiero	Average fruit weight:	79.7mm	TSS% (post harvest) (41)	13.1 Low	Pressure (post harvest) (41)	kg/m3
Rootstock:	M26	width:		14.4 Average	6.3 Low		
Region (site):	Stanthorpe (8)	Average fruit length:	65.9mm	16.6 High	7.4 Average		
Elevation:	932	Average fruit weight:	213.0g		9.6 High		
Lat/Long:	28° 31' / 151° 52'	Average tray count:	60 (standard 3 layer 12kg carton)				
Season:	All						
Report date:	02/07/2010 12:38						

TREE GROWTH CHARACTERISTICS

Tree Vigour

Weak :40%
Medium:60%
Strong :0%
Very :0%
strong :0%

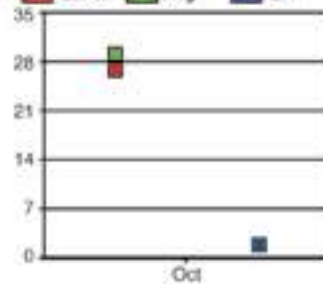
Tree Habit

Upright : 100%



Flowering and Cropping

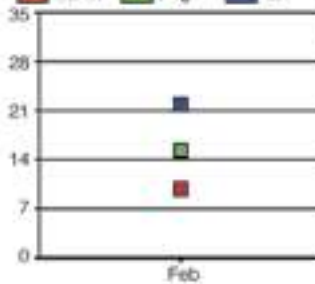
Earliest Avg Lat



Full Bloom Date (5)

27 Sep Earliest
29 Sep Average
2 Oct Latest

Earliest Avg Lat



Harvest Date (5)

10 Feb Earliest
15 Feb Average
22 Feb Latest

FRUIT EATING QUALITIES:

Flavour (6)

0% Aromatic
50% Balanced
0% Bitter
0% Bland
0% Chalky/dry
0% Floraly
33% Rich/sweet
0% Spicy
17% Sprightly
0% Starchy
0% Tart/acid
0% Tannic
0% Off
17% Effervescent

Acid : sugar ratio (6)

0% High acid : high sugar
0% High acid : mod sugar
0% High acid : low sugar
17% Mod acid : high sugar
50% Mod acid : mod sugar
0% Mod acid : low sugar
17% Low acid : high sugar
17% Low acid : mod sugar
0% Low acid : low sugar

Juiciness (6)

0% Dry
17% Medium
67% Juicy
17% Very juicy

Flesh texture (6)

0% Soft
67% Fine/melting
17% Breaking
0% Medium
17% Course
0% Grainy/gritty
0% Rubbery

Flesh crispness (6)

0% Not crisp
17% Slightly crisp
83% Crisp
0% Very crisp

Flesh colour (6)

33% White
33% Cream
33% Yellow
0% Yellowish/green
0% Green

Sweetness (6)

0% Acid
50% Slightly sweet
33% Sweet
17% Very sweet

Skin thickness (6)

33% Thin
67% Medium
0% Thick

Continued...



The Australian Pome Fruit
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Variety Reports - Fiero® Apple



FRUIT APPEARANCE

Over Colour

Pink	20 (11%)
Pinkish/Red	100 (50%)
Red 60	(33%)



BackGround Colour

Cream	20 (20%)
Yellow	0 (0%)
Yellow/green	80 (80%)
Green	0 (0%)



Fruit Shape

Round : 40%



Round

PHOTOGRAPHS

Internal photo



External Photo



Fruit on tree photo



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Weather Summary Reports




This is an example of one of the many up-to-date regional Weather Reports available at www.apfip.com

Weather Reports

Local weather data forms a critical component of APFIP's evaluation program. It enables effective comparisons of inter-regional variety

performance. APFIP records weather data regularly from a wide network of weather stations located at evaluation sites. Frequently updated weather reports are available from the www.apfip.com website 'evaluation' portal. The reports provide useful data on rainfall, average, upper and lower temperatures, leaf wetness, average humidity and chilling hours (calculated using the Utah Model of chilling hour accumulation).



Weather summary report

Site: Yarra Valley (13)
Season: 2010-2011
Report date: 30/01/2012 03:23

Weather data
 Weather data is recorded at half hour intervals. 'Avg temp' is the average halfhourly temperature reading for the month. 'Avg max' is the average of the daily maximum temperature. 'Avg min' is the average of the daily minimum temperature.

Month	Avg temp (degrees c)	Avg max (degrees c)	Avg min (degrees c)	Daylight (hours)	Rainfall (mm)	Leaf wetness (hours)	Avg humidity (percent %)
July	7.5	12.5	2.9	325.0	42.0	439.5	92.2
August	7.9	12.2	4.0	354.0	99.9	405.5	85.9
September	9.8	14.4	5.5	372.0	63.4	332.5	83.5
October	12.7	19.8	5.6	425.0	143.5	396.0	79.7
November	15.8	23.0	9.1	443.0	93.6	350.0	79.5
December	18.4	25.2	12.8	220.5	65.4	181.5	79.8
January	19.6	26.9	13.2	467.0	83.6	366.5	77.3
February	18.2	25.4	12.1	394.5	174.8	359.5	82.8
March	16.3	22.9	10.7	201.0	31.5	162.0	81.3
April	12.1	19.3	6.7	177.0	10.8	228.0	89.4
May	9.0	14.0	4.8	345.5	75.5	534.5	94.3
June	6.7	12.7	1.6	154.5	22.1	249.5	92.8

Chilling Hours (15th May 2011 to 15th August 2011)

Month	Chilling Hours (per month)	Chilling Hours (running total)
May	248.5	248.5
June	425.5	674
July	515.5	1189.5
August	306.5	1496

APFIP Evaluation Database chilling units are to be calculated for the season immediately following collection of data. i.e. Chilling Units calculated from the 15th of May to the 15th of August would be applied to the following growing season.

APFIP Variety Register and Evaluation Status



This table shows the total amount of varieties that have been through the apfip evaluation program. The table displays the variety coding name and supplier, the apfip evaluation sites are listed and the varieties are identified in the sites in which their evaluation has taken place. Identification is shown as either green or blue dots indicating that the variety is inactive (blue) and has finished the required time frame or active

(green) indicating that the variety is still being evaluated in a pacific site. The other columns indicate the current evaluation status of the variety. Due to the confidential nature of agreements and contracts between apfip and its suppliers not all variety names and owners can be displayed. APFIP currently has 17 suppliers on its variety register consisting of private growers, Australian and International breeding programs.

• Inactive • Active • Current Status

Apples														
Variety	Supplier	APFIP Evaluation Areas									General access 3 years data	Eliminated due to supplier notification or performance	Supplier requested data only	Currently still being evaluated
		HUON VALLEY TAS	GOULBURN VALLEY VIC	VARRA VALLEY VIC	ORANGE NSW	MANJIMUP WA	LENSWOOD SA	BATLOW NSW	STANTHORPE QLD	APFIP REPOSITORY TAS				
		•	•			•	•	•	•				•	
Rubinstar	ANFIC NSW	•		•	•	•	•		•		•			
Sunrise	ANFIC NSW				•	•					•			
Nova	ANFIC NSW	•	•	•	•		•	•	•		•			
Svatava	ANFIC NSW	•	•	•	•		•	•	•		•			
Topaz	ANFIC NSW	•	•	•	•		•	•	•		•			
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		•	•	•	•		•	•	•					•
A101R08T016	Prevar/ANFIC	•												•
A121R09T105	Prevar/ANFIC	•												•
A022R09T009	Prevar/ANFIC	•	•		•		•	•	•					•
A20R03T238	Prevar/ANFIC	•	•		•		•	•	•					•
A022R14T153	Prevar/ANFIC	•	•		•	•	•	•	•					•
A022R15T145	Prevar/ANFIC	•										•		
A020R04T280/sweetie	Prevar/ANFIC	•	•		•		•	•	•					•
A019R01T025	Prevar/ANFIC	•	•		•		•		•					•
A019R02T193	Prevar/ANFIC	•			•			•	•					•
A020R02T032/SCIGOLD	Prevar/ANFIC	•	•		•		•		•					•
A022R11T137	Prevar/ANFIC	•	•	•	•		•	•	•					•
A022R19T109	Prevar/ANFIC	•	•	•	•		•	•	•					•
A022R24T147	Prevar/ANFIC	•	•		•		•		•					•
A038R02T119/PINKIE	Prevar/ANFIC	•	•	•	•		•		•					•
A047R08T037	Prevar/ANFIC	•	•		•		•		•					•



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A115R02T096	Prevar/ANFIC	•	•	•	•				•					•
A123R06T229	Prevar/ANFIC	•	•	•	•		•		•					•
A160R02T017	Prevar/ANFIC	•	•	•	•		•	•	•					•
A160R02T020	Prevar/ANFIC	•	•		•		•		•					•
Granny Smith	APFIP Ltd								•					
Gala	APFIP Ltd								•					
Braeburn	APFIP Ltd								•					
Jonagold	APFIP Ltd								•					
Tas AG 8	APFIP Ltd								•					
Jonagold	APFIP Ltd								•					
Golden Del H/T	APFIP Ltd								•					
Sansa	APFIP Ltd	•	•		•	•	•	•		•				
Pink Lady 1	APFIP Ltd	•		•	•		•	•	•	•				
Sudowner	APFIP Ltd								•					
Naga Fu 6 Fuji	APFIP Ltd	•	•	•	•		•		•	•				
Pink lady 2	APFIP Ltd	•		•	•		•		•	•				
Naga Fu 6 Fuji	APFIP Ltd	•		•	•		•		•	•				
Pink Lady 3	APFIP Ltd	•	•	•	•		•		•	•				
		•	•				•							•
Myra	C&O Nursery USA	•	•		•			•	•	•				
Fiero	C&O Nursery USA	•	•		•	•		•	•	•				
Snyder	C&O Nursery USA	•	•		•	•		•	•	•				
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Honey Crisp	Flemings Nursery	•											•	
Arlet	Grove Research TAS				•		•			•				
Naga Fu 6 Fuji	Grove Research TAS				•		•			•				
Naga Fu 12 Fuji	Grove Research TAS				•		•			•				
Ogura Fuji	Grove Research TAS									•				
Fuji 2001	Grove Research TAS									•				



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		HUON VALLEY TAS	GOULBURN VALLEY VIC	VARRA VALLEY VIC	ORANGE NSW	MANJIMUP WA	LENSWOOD SA	BATLOW NSW	STANTHORPE QLD	APFIP REPOSITORY TAS				
Starks Earlist	Grove Research TAS										•			
MM106 Grove	Grove Research TAS										•			
Golden Hornet Crab	Grove Research TAS										•			
Manchurian Crab	Grove Research TAS										•			
Summered	Grove Research TAS										•			
Raku Raku	Grove Research TAS										•			
A080R09T092	Hort Research NZ	•												•
A121R09T036	Hort Research NZ	•												•
A121R19T167	Hort Research NZ	•												•
A121R21T271	Hort Research NZ	•												•
A174R04T093	Hort Research NZ	•												•
A180R20T066	Hort Research NZ	•												•
A20R04T247	Hort Research NZ	•											•	
A20R04T235	Hort Research NZ	•											•	
A40R02T119	Hort Research NZ	•											•	
A07R10T092	Hort Research NZ	•											•	
A20R01T289	Hort Research NZ	•											•	
A20R03T179	Hort Research NZ	•											•	
Pink lady	Mount View NSW							•			•			
Naga Fu 2	Mount View NSW							•			•			
Kitaro	NIFTS Japan											•		
Kotaro	NIFTS Japan									•				
Gala	Olea Nursery WA							•			•			
Golden Delicious	Olea Nursery WA							•			•			
Fuji	Olea Nursery WA							•			•			
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		HUON VALLEY TAS	GOULBURN VALLEY VIC	VARRA VALLEY VIC	ORANGE NSW	MANJIMUP WA	LENSWOOD SA	BATLOW NSW	STANTHORPE QLD	APFIP REPOSITORY TAS				
		•	•				•		•					•
Caudle	Tahune Fields Nursery	•	•	•	•	•	•	•	•		•			
Gala TF	Tahune Fields Nursery		•	•	•		•	•	•		•			
MC 38 Crimson Snow	Tangara Nursery TAS		•		•			•	•		•			
Pears														
			•	•			•					•		
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P011R12T090	Prevar/ANFIC	•												•
P037R48T081	Prevar/ANFIC	•												•
P202R135T158	Prevar/ANFIC	•												•
P128R68T003	Prevar/ANFIC		•				•							•
P139R91T042	Prevar/ANFIC	•		•	•		•	•						•
P139R91T033	Prevar/ANFIC		•	•		•	•	•	•					•
P205R130T109	Prevar/ANFIC		•	•		•	•	•	•					•
P095R15T036/CRISPIE	Prevar/ANFIC		•	•		•	•	•	•					•
P098R01T045/MAXIE	Prevar/ANFIC		•	•		•	•	•	•					•
P161R117T099	Prevar/ANFIC		•	•		•	•	•	•					•
P002R20T115/NELLIE	Prevar/ANFIC		•	•		•	•	•	•					•
P133R76T058	Prevar/ANFIC		•	•		•	•	•	•					•
P144R100T001	Prevar/ANFIC		•				•							•





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P202P137T086	Prevar/ANFIC		•													•	
P202P136T118	Prevar/ANFIC			•													•
Williams	APFIP Ltd											•					
Burre Bosc	Hansen Orchards											•					
P011R11T155	Hort Research NZ	•															•
P045R04T021	Hort Research NZ	•															•
P094R15T155	Hort Research NZ	•															•
P202R135T159	Hort Research NZ	•															•
P202R136T118	Hort Research NZ	•															•
P202R137T086	Hort Research NZ	•															•
P204R135T058	Hort Research NZ	•															•
P13R24T98	Hort Research NZ																
P189R128T039	Hort Research NZ	•														•	
P011R12T132	Hort Research NZ	•	•	•	•		•	•									•
P124R60T027	Hort Research NZ	•	•	•	•		•	•									•
P076R02T021	Hort Research NZ	•	•	•	•		•	•									•
P132R92T031	Hort Research NZ	•	•	•	•		•	•									•
P013R24T098	Hort Research NZ	•	•	•	•		•	•									•
P202R137T052	Hort Research NZ																
P013R24T078	Hort Research NZ	•														•	
P11R11T128	Hort Research NZ	•														•	
Buerre Hardy	Jill Cambell (OAI)											•					
Packhams Triumph	Jill Cambell (OAI)											•					
												•					
												•					
Rogue Red	Stoneville Research WA		•										•				
Eldorado	Stoneville Research WA		•										•				
Howell	Stoneville Research WA							•					•				
Bittura Precoce Morettini	Stoneville Research WA		•					•					•				
Red Clapps	Stoneville Research WA		•										•				



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With imported apples arriving in Australia, the international competitiveness of our industry becomes more and more important. The foresighted people who established APFIP some 15 years ago knew and understood that the varieties we grow and the trees these apples and pears were grown on would be vital to our ability to compete with overseas imports when they eventually happened.

I am pleased to report that today, faced with the reality of imports, the investment by the industry over the previous 15 years is paying off. We have excellent variety evaluation and tree certification schemes to provide some of the tools our industry needs in order to be competitive with apple producers in other countries.

As in other years, the operations of APFIP have focused on our three core areas – certification, evaluation and quarantine services.

Certification Services

Around 70% of Australia's pome fruit nursery capacity is now licensed to use the APFIP Certification Trademark and the underlying certification system. Unfortunately this does not mean that 70% of the new trees planted each year are certified by APFIP – we do not control the commercial operations of our nursery licensees. However, the main pome fruit tree nurseries have adopted our system. As bulking up and segregation issues are overcome we will see more and more of Australia's apple and pear trees being supplied as APFIP-certified. APFIP's estimate is that of the order of 200,000 APFIP-certified rootstocks will be available to our industry in 2011.

One of the strategies that APFIP has adopted to encourage nurseries to produce certified trees is to work with them on the issues, related to certified tree production, that they see as new, difficult or expensive. APFIP has two projects in this area.

- Within a nursery, location of budwood source trees, stock control and segregation (certified stock being kept separate from non-certified stock) are significant issues in achieving delivery of certified trees. To address this, APFIP is leading information technology developments that will make compliance with some of the rules of the APFIP certification program significantly easier. In a pilot project we are developing barcode reading systems that allow capture of the nursery position of bud wood source trees electronically and in the field. This data can then be downloaded to a database record allowing the nursery to track and record the budwood source used in the production of the certified trees. The systems developed will be available to other nurseries who purchase the hardware required.
- We continue to bulk up certified apple rootstocks (M26 and M9). This means that a nursery can simply purchase these to plant their own certified stool beds. As demand for these certified stocks is increasing, we have increased our planting of these

One of the parts of our certification service that is sometimes overlooked is the role of the APFIP Repository at Cambridge, near Hobart. The repository provides a number of services. They include

- **Hosting of varieties imported from overseas.** After release from quarantine, such varieties are planted in the repository to allow bulk up of budwood and production of trees for the

national evaluation sites. It also allows a place where the original varieties, imported from overseas can be maintained

- **Hosting of heat-treated lines.** In the same way the repository provides a "home" for varieties after they have been heat treated for removal of virus. This is particularly important for rootstock lines such as M26 and M9

Evaluation Services

This year, the major developments in the evaluation area have also been IT related. In the past evaluation data was recorded on paper forms in the field. Data from these was transcribed in the office. Under the new system, evaluation data is loaded directly onto a computer in the field, sent by mobile phone and automatically downloaded into the APFIP evaluation database. The new system improves timeliness, accuracy (avoids transcription errors) and reduces costs.

Two new evaluation sites for apples and pears were planted at Lenswood (Adelaide Hills) and the Goulburn Valley. These replaced older sites, in the same regions that had been/will be lost to APFIP.

Seven new apple varieties and six new pear varieties were planted in the evaluation sites last winter.

Quarantine Services

APFIP continues as the major point of liaison between the industry and AQIS. Mark Hankin has replaced me on the Post Entry Plant Industry Consultative Committee.

It is good to know that the Commonwealth has now decided that a new quarantine facility (to replace those at both Knoxfield and Eastern Creek) will be built in around 2018 and the Knoxfield and Eastern Creek facilities will be maintained in the meantime. APFIP contributed (in a small way) to this decision by providing a paper (to AQIS) on the importance and value, to the Australian industry, of apple and pear varieties imported into Australia.

APFIP now provides it certified M26 rootstocks to AQIS for their use in the pome fruit importation protocol. M26 is a fire blight-susceptible rootstock and has a key role in the testing process for the detection of fire blight. This also provides a "free of known viruses" baseline that AQIS can use for their virus testing work.

I believe that the interaction between APFIP and AQIS is still one of the industry's most important relationships. Having a quarantine service that can "clear" a variety in 15-18 months is a significant asset for us

Overall, I believe the past year has been a good one for APFIP. With the new governance arrangements and the long investment in certified planting materials now quickly coming to fruition, we are doing our part in making Australian producers competitive with producers in any other country – a service which we are proud to provide.

Garry Langford,
General Manager
Australian Pome Fruit Improvement Program



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