

# KVH Information Sheet

## Male Cultivar Identification Guide



Male cultivars vary in susceptibility to *Psa-V*. Therefore, identification of male varieties can assist *Psa-V* management activities undertaken on orchard. For more information on male cultivar susceptibility, refer to the document [Male susceptibility to \*Psa-V\*](#) on the KVH website.

Males can be difficult to identify in the field. Flowering provides the best opportunity to distinguish between cultivars. The table below shows males commonly matched with female cultivars. The ploidy of each cultivar is also noted, and can be relevant when selecting suitable male varieties.

Ploidy is the number of sets of chromosomes present in the nucleus of each cell (eg, 2x = two sets, 4x = four sets, etc.). Generally, male cultivars are selected to match the ploidy of the female cultivar they are pollinating. Male cultivars of a different ploidy can sometimes be used to pollinate females, but this may result in smaller fruit size.

### Possible male pollinisers of female varieties

Cultivar	Species	Ploidy	Hayward (6x)	G14 (4x)	G3 (4x)	G9 (4x)	Hort16A (2x)
			<i>A. deliciosa</i>	<i>A. deliciosa</i> x <i>A. chinensis</i>	<i>A. chinensis</i>	<i>A. chinensis</i>	<i>A. chinensis</i>
Russell	<i>A. chinensis</i>	2x					✓
Baker	<i>A. chinensis</i>	2x					✓
Bruce	<i>A. chinensis</i>	2x					✓
CK2 (Sparkler)	<i>A. chinensis</i>	2x					✓
CK3 (Meteor)	<i>A. chinensis</i>	2x					✓
M33	<i>A. chinensis</i>	4x			✓	✓	
M91	<i>A. chinensis</i>	4x		✓	✓	✓	
Tomuri	<i>A. deliciosa</i>	6x	✓				
M56	<i>A. deliciosa</i>	6x		✓			
King	<i>A. deliciosa</i>	6x		✓			
Matua	<i>A. deliciosa</i>	6x	✓				
Chieftain	<i>A. deliciosa</i>	6x	✓				

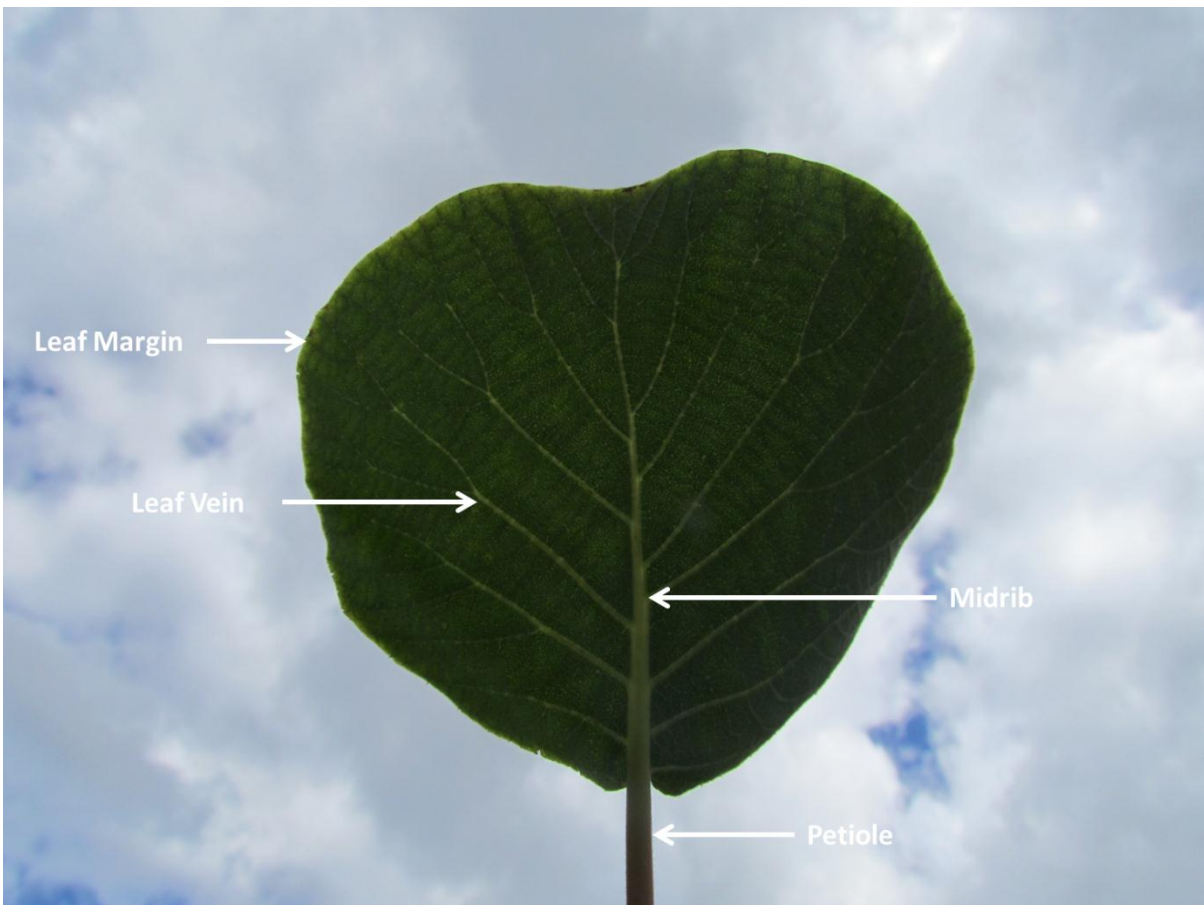
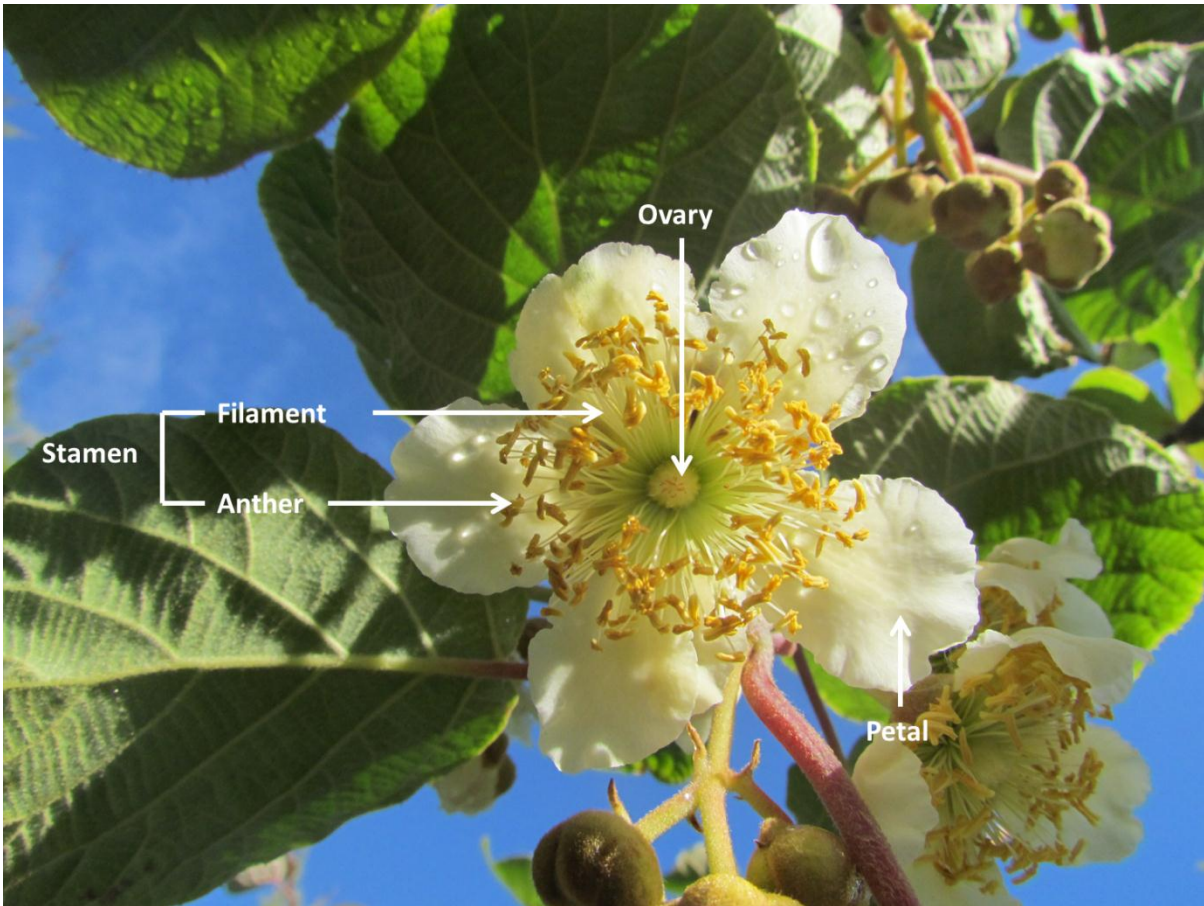
The photos and descriptions within this document are a basic guide to help growers and managers identify male cultivars. Photos are followed by brief descriptions of flower and leaf characteristics. When capturing images, similar age canes, flowers and other plant parts were selected. A male variety identification key is also provided.

This guide will be expanded as more information on male kiwifruit cultivars becomes available.

Once identified, colour coding or labelling male plants in the orchard is recommended.

Plant & Food Research has compiled graphs showing the timing of flowering for different cultivars from four geographic locations. These assist in the identification and selection of male pollinisers for female varieties. These graphs are available in the ZESPRI New Variety Guides on the [ZESPRI Canopy](#).

Diagram of plant parts mentioned in cultivar descriptions



## *A. arguta*



Flowers	Petals	Stamens	Leaves	Polliniser of
Small bunches of delicate white flowers. Bell shaped.	Round, touching.	Few, short. Anthers are black.	Glossy, light green. Narrow.	<i>A. arguta</i> .

## Bruce



Flowers	Petals	Stamens	Leaves	Polliniser of
Highly floral. Big bunches of flowers on canes.	Round, overlapping. Bi-coloured.	Few, sticking straight up.	Glossy, olive (medium green).	Gold3; Gold9; Hort16A.

## Chieftain



Chieftain (left) white bloom

Russell (right) stems hairy

Chieftain leaves (left) and Matua leaves (right)

Flowers	Petals	Stamens	Leaves/stems	Polliniser of
Large number of triples.	Touching.	Fan outwards. Visible ovary with short white styles.	Glossy, dark green. Canes and petioles smooth with a thick white bloom.	Hayward.

## CK2 (Sparkler)



Flowers	Petals	Stamens	Leaves/Petioles	Polliniser of
Small bunches of flowers around canes.	Overlapping, wavy.	Short and small.	Matt. Olive (light green). Short, smooth petioles.	Hort16A.

### CK3 (Meteor)



Flowers	Petals	Stamens	Leaves/Petioles	Polliniser of
			Matt. Medium green. Petioles hairy.	Hort16A
<b>NOTE: Less vigorous growth habit than CK2.</b>				

## King



King (left) and Chieftain (right) flowers and shoots.

Flowers	Petals	Stamens	Leaves	Polliniser of
Big flowers, generally singles.	Touching.	Long and bushy.	Matt. Dark green.	Green14.



## M33



M91 orange coloured shoot tip    M33 pale green/white shoot tip

Flowers	Petals	Stamens	Leaves/Petioles	Polliniser of
Present along the whole cane.	Toothed. Separate as flowers mature.	Short. Yellow ovary.	Matt. Medium green. Petiole red up to leaf blade. Midrib is white. Growing tip diamond shaped and white/green.	Gold3; Gold9; Green14.

## M56



M56 (left) and Chieftain (right).



M56 (top), Chieftain (middle) and King (bottom) flowers.

Flowers	Petals	Stamens	Leaves	Polliniser of
Big flowers.	Touching.	Many long stamens. Visible ovary.	Matt. Olive (light green). Growing tip round, green/white. Young leaves have long cilia on leaf margin.	Hayward.

## M91



M33 leaf & flowers

M91 leaf & flowers

Flowers	Petals	Stamen	Leaves/petioles	Polliniser of
Flat. Few petals.	Toothed. Separate when mature.	Short. Dark orange opening in ovary.	Glossy. Dark green. Petiole red into leaf blade. Midrib red. Leaf edges curl upwards. Growing tip orange.	Gold3; Gold9; Green14.

## Matua



Flowers	Petals	Stamens	Leaves	Polliniser of
Large. Fewer petals than other cultivars.	Wavy. Just touching or separated.	Long. Fan outwards. Prominent, raised white ovary.	Matt. Olive (light green). Sharply pointed leaves. Growing tip red.	Hayward.

## Russell



Flowers	Petals	Stamens	Leaves/Petioles	Polliniser of
Small bunches of flowers around canes.	Round and overlapping.	Few with big anthers.	Glossy. Olive (light green). Heart-shaped leaves. Round thick growing tip, greenish white. Stems with many orange hairs.	Hort16A.

## Tomuri



Matua

Tomuri



Matua

Tomuri

Flowers	Petals	Stamens	Leaves/stems.	Polliniser of
White.	Overlapping.	Many long, fan outwards.	Slightly glossy. Medium green. Sharply pointed leaf tip. Moderate white bloom on canes. Yellow hairs on petioles.	Hayward.

## Male Variety Identification Key

Plant characteristics		Cultivars
Leaves	Leaves glossy	A.arguta (several cultivars), Bruce, Chieftain, M91, Tomuri, Russell
	Leaves matt	CK2 (Sparkler), CK3 (Meteor), King, M33, M56, Matua
	Leaves dark green	Chieftain, M91, King
	Leaves medium green	A. arguta, Bruce, M33, Tomuri, CK3
	Leaves olive (light green)	CK2, M56, Matua, Russell
Stems	White bloom on stems	Chieftain (heavy), Tomuri (moderate) M56 (light)
	Hairy stems	CK3, Russell, Tomuri
	Smooth stems	CK2, Chieftain, Matua
Petiole	Red up to leaf blade—midrib white	M33
	Red into leaf blade—midrib red	M91
Growing tip	Growing tip coloured—red/orange	Matua, M91
	Growing tip green/white	Russell, M56, M33
Flowers	Flower petals separated	M91, Matua, M33
	Flower petals touching or overlapping	A. arguta, Bruce, CK2, CK3, King, Russell, Tomuri
	Flowers singles	King
	Flowers triples	Chieftain
	Stamens short or few	A. arguta, Bruce, CK2, CK3, M33, M91, Russell
	Stamens many and long	Chieftain, King, M56, Matua, Tomuri

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