

# **Activity # 1- Assessing Horticultural Crop Suitability for the Queensland Murray Darling Basin Study Area**

## **Specific Biophysical Crop Information – Blueberry**

(1 August 2014 to 30 June 2016)

## Activity 1 — Project Team

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## Blueberry

Based on the biophysical requirements and limiting factors, **Blueberries are a marginal crop** for the Balonne-Border Rivers Region of the QMDB. The most critical limiting factor is the need for expanding export markets due to the rapidly expanding production base in NSW and Qld coastal regions, which have much more favourable climatic conditions as well as more favourable access to labour and markets, two additional significant constraints on expansion in this industry into the QMDB area.

### Crop Matrix:-

	Crop	Blueberry
Currently Grown (Y/N)	Qld	Y
	QMDB	??
	NSW	Y
	Vic	Y
Frost Sensitivity (Y/N or Deg C)	Seedling	Y
	Growth	Y
	Reproductive	Y
Low Temp Sensitivity (Y/N or Deg C)	Seedling	N
	Growth	N
	Reproductive	-2°C
High Temp Sensitivity	Seedling	Y
	Growth	Y
	Reproductive	Y
Rainfall Sensitivity	Y/N	Y
	Growth Phase	Harvest
Special Soil Requirements	Y/N	Y
	Requirement	Well drained
Chilling Req.	Y/N	Y
	(Hours)	S-250-600 R-450-600
Water Quality	Sensitivity (dS/m)	0.45
Harvest Months	(Months)	June-Jan Peak - Sept/Nov
Length of harvest	(Weeks)	12
First Harvest	(Years)	
Full Production	(Years)	2 - replant after 6-10
QMDB	Y/N	Y (with constraints)

## Biophysical Requirements and Limiting Factors (climate).

### Temperature

- **Southern Highbush types** - *Vaccinium corymbosum hybrid* - are low chill varieties with some heat tolerance and low chilling (between 250-600 chill hours) and are frost sensitive. Some varieties are evergreen.
- **Rabbiteye types** – *Vaccinium ashei* - hardy plants which can tolerate cooler conditions than the Southern Highbush types. They are low chill (between 450-600 chill hours) and late season.

### Soils

Blueberries need deep well drained soils. They are very susceptible to waterlogging and they develop root rots that reduce yields and/or kill plants.

### Irrigation

September to early February during fruit set and fruit growth is a critical period for irrigation as is the period from February to April for initiation of flowers for the following crop.

### Pollination

Introducing honeybee hives into blueberry orchards has shown to increase yields (Rhodes, 2006). Other insects and native bees also assist in pollination.

Rabbiteye cultivars especially require cross pollination with a compatible variety for a commercial fruit set to occur.

[Pollination Aware Fact Sheet](#) and [RIRDC Info Services](#)

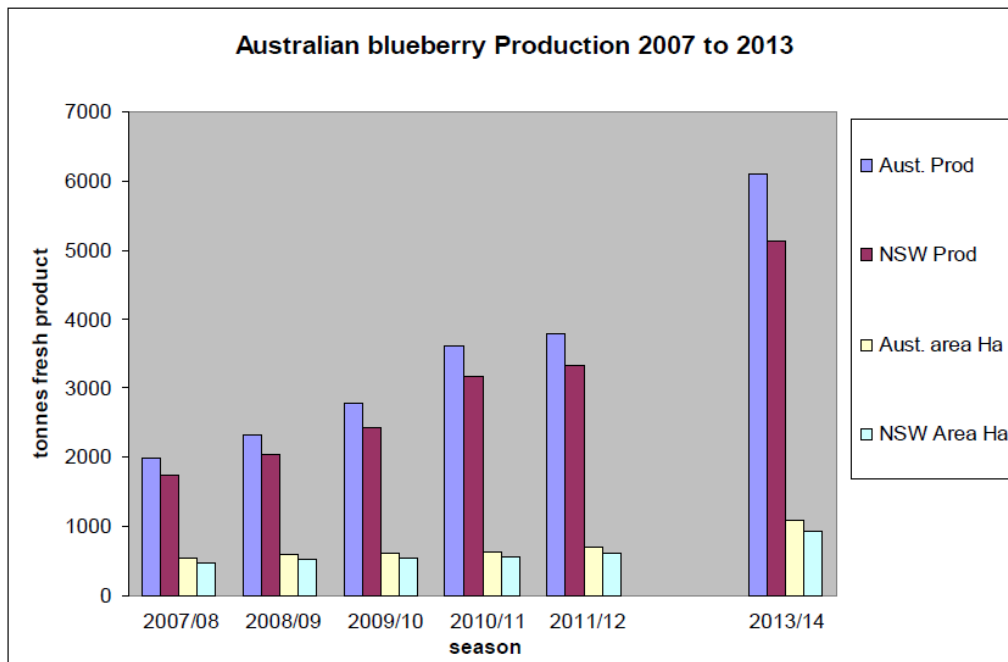
## Comparison Region(s)

Over the past 10 years, the Australian blueberry industry has seen a rapid expansion of production of about 10% per year, mostly in NSW to 1,100 ha in 2013/14. NSW is the largest producing state in Australia, accounting for more than 80% of Australia's blueberry production (Wilk, 2014).



Source – ABGA, 2015.

## Australian Blueberry Production 2007 to 2013



Source – Wilk, 2014.

An increase in production in Queensland has occurred in order to take advantage of the early flowering and fruiting times which produce fruit during the winter period of June, July and August.

Varieties such as 11-11, 42, 390, Snowchaser, Eureka and Meridian may provide higher yields and better quality berries than those from the more traditional varieties used to establish the industry over the past 20 years. These varieties also have greater heat tolerance and lower chilling requirements, making them more suited to areas of Southern Queensland which have mild winters and hot summers.

## Potential Constraints

Currently there are 1,100 ha of bearing blueberries in Australia. An additional 498 hectares will come into production in 2014/15, resulting in a 75% increase from 6100 tonnes in 2013. Wilk (2014), concludes, “From these data it is evident that **the blueberry industry will need to work hard to sell this fruit and maintain returns to growers**. This is why the ABGA (Australian Blueberry Growers Association) is currently working to gain export markets that will take pressure off the domestic markets.”

Further expansion is planned by growers as demonstrated by the survey conducted by Wilk (2014) – “approximately 500 hectares of blueberries being planted in the next 5 years. This expansion along with 498 hectares already in the ground but not producing blueberries will mean **there will be a large increase in blueberry production over the next 10 years**. This expansion will need **careful planning** and the involvement of a range of industry bodies **to maintain profitability in the industry**.”

Additional constraints were highlighted in the survey by Wilk (2014) – “it is evident that the standout issue for respondents are labour costs and/or finding skilled labour; other key issues limiting

continued profitability include **finding new markets, climate conditions** and the **rising cost of production.**”

Blueberries may need netting to reduce damage from birds.

Queensland Fruit Fly (*Bactrocera tryoni*) is a potential pest of national significance to this crop in domestic and export markets.

## Blueberries in QMDB Region.

Based on the biophysical requirements and limiting factors, **Blueberries are a marginal crop** for the Balonne-Border Rivers Region of the QMDB. The most critical limiting factor is the need for expanding export markets due to the rapidly **expanding production base** in NSW and Qld coastal regions, which have much more favourable climatic conditions as well as more favourable access to labour and markets. Market access and labour availability are two additional significant constraints of expansion in this industry.

## References

- ABGA (2015). Australian Blueberry Growers Association  
[Australian Blueberry Growers Association](#)
- Rhodes, J (2006). Honeybee pollination of Blueberries. Primefact 157, NSW DPI.  
[NSW DPI Honeybee pollination of Blueberries.](#)
- Wilk, P. (2014) Understanding the Demographic of the Australian Blueberry Industry. NSW Department of Primary industries. Project Number: BB13000.  
[NSW DPI Demographic of the Australian Blueberry Industry.](#)

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Disclaimer: The candidate crop information presented in this QMDB study area report (Activity 1) are based on the analysis of the published biophysical needs of the crops (e.g. temperature, frost sensitivity, chill requirement, water quality, etc.) and current climate records for the QMDB study area. The candidate crops are deemed suited to the study area where the biophysical needs are met either year round or for portion of the year and will allow crop production.

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