

2 April 2019

Ms Sue Folliott  
TSA Management  
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Brisbane Q 4000

By email [sfolliott@tsamanagement.com.au](mailto:sfolliott@tsamanagement.com.au)

Dear Ms Folliott

I have reviewed the document produced by Ms Sandra Dennien of Department of Agriculture and Fisheries (the document) and make the following points.

1. In relation to crop rotation and yield the document states the following:

*Crop Rotation*

*"Fallow periods after sweetpotato cropping are no longer widely used as growers are more soil health conscious. Rotation crops are planted between crops as continuous cropping of sweetpotatoes in the same block without a break leads to a build-up of pests and diseases. Thus growers need 2 to 3 times the amount of land than is planted to sweetpotato at anyone time to remain viable."*

*Yield*

*"The sweetpotato information kit form DEEDI lists yields as 20-30 tonne per hectare in 2002. Current yields in Cudgen are now upwards of 110 tonnes per hectare."*

2. In consideration of my letter dated 19 December 2018, I referred to a yield of 50t/ha/annum on flat ground and 35t/ha on sloping ground and a crop rotation of 1 year in 3. My calculation of gross margin for sweet potato was based on a maximum cropped area of 12.01 ha every 3 years.
3. While yields of upwards of 110t/ha may be possible, I consider they would only be achieved when, amongst other things, the following factors are present:
  - a) Adequate crop rotation for disease management.
  - b) Flat well drained soils for the planting of the entire crop.
  - c) Adequate and even irrigation application.
  - d) Rock free soil.
4. In further considering the crop rotation length and expected yield, in 2017 from [www.potatopro.com](http://www.potatopro.com) the national average yield of sweet potato was 35.4 t/ha (72,422t ÷ 2,028ha). From the Hort Innovation 2017/18 Horticulture Statistics Handbook in the 2018 financial year production was 97,333t. While the hectares planted to produce this yield are not available, even if the area planted was the same as the 2017 area (2,028 ha), the

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national average yield would be 47.5 t/ha. Copies of the relevant documents in relation to the national yields are attached as **Appendix A**.

5. It will be recalled that no documents have been provided that provide any indication of what the historical yields of sweet potatoes grown at 771 Cudgen Rd were. The use of historical yields is the only accurate way of determining what the value of production may have been. Historical yields would also determine the impact of the following factors:
  - a) The annual area of the property that had sweet potato planted on it each year.
  - b) The impact of the sloping ground on irrigation application efficiency.
  - c) The impact of the sloping land on production or the cost of managing rocky ground, particularly for ground harvested crops like potato, which would incur increased labour costs to assist with harvest.
  - d) The impact of the sloping land on production (yields/ha). The total of this sloping ground is 8.02 ha.
  - e) The impact of rocky ground on production and harvest efficiency, particularly on the sloping ground on the western side of the property.
6. At my inspection that I completed on 15 June 2018, there was only 3.49 ha that had sweet potato planted or 24% of the 12.01 ha that may be able to be cultivated. On one paddock that is 0.52 ha in size, there was evidence that it had been recently harvested, if this is considered, the area planted was potentially 4.01 ha or 31% of the 12.01 ha.
7. I consider that the yields I have used and the rotation duration I have used are likely to be conservative and in consequence the possible gross margin that I have used is reasonable, I consider this to be the case for the following reasons:
  - The national average yield/ha in 2017 was 35.4 t/ha, in 2018 the maximum national average yield may have been 47.5 t/ha but was likely to have been lower.
  - I have used a yield of 35 t/ha for sloping ground and 50 t/ha for flat ground.
  - The topography of the property is not well suited to irrigation, particularly drip irrigation which is the likely type of irrigation used on the property.
  - The only evidence available on planted area was from my inspection. The area likely to have been planted was a maximum of 31% of the property. There was no indication that any other area had been planted and or harvested in the 2018 calendar year.
  - At my inspection all of the paddocks on the northern side of the property which are a total of 4.42 ha, did not show any evidence that they had been cropped for a considerable period. They had not been cultivated, there was significant weed growth and there was no evidence of any old drip irrigation tube or other items that may indicate that they had been recently used for sweet potato production. It is very likely that the available area for sweet potato production is significantly less than 12.01 ha which is what I have based my gross margin on.



8. If information is made available in relation to historical production of 771 Cudgen Rd, I will consider that information. If such information is not available, the use of the yields and rotation lengths I have used is reasonable and in line with the small amount of evidence that is available.

Your sincerely

**ARC Group**

Tony Hartley  
Director



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# Appendix A

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# Agricultural Statistics Australia

Select Product:

- Any - ▼

Show:

- Any - ▼

Year

- Any - ▼

Apply

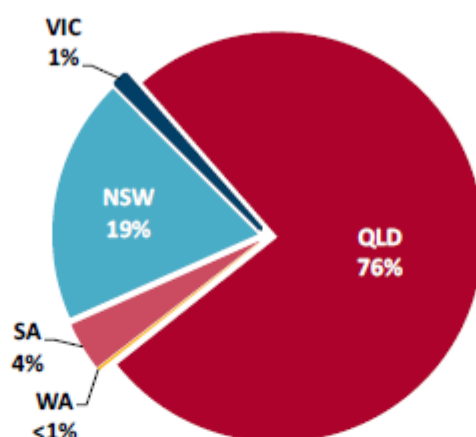
Potato Production in <b>2017</b> :	1,105,190.00	tonnes	Official data
Potato Yield in <b>2017</b> :	389,534.00	hg/ha	Calculated data
Potato Area Harvested in <b>2017</b> :	28,372.00	ha	Official data
Sweet Potato Yield in <b>2017</b> :	357,159.00	hg/ha	Calculated data
Sweet Potato Production in <b>2017</b> :	72,422.00	tonnes	FAO data based on imputation methodology
Sweet Potato Area Harvested in <b>2017</b> :	2,028.00	ha	FAO data based on imputation methodology

Source [www.potatopro.com](http://www.potatopro.com)



## Sweetpotatoes

### 2017/18 Fresh Sweetpotatoes Production by State



Source: ASPGA

### Fresh Sweetpotatoes Seasonality by State

State	17/18 Tonnes	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
New South Wales	18,662												
Victoria	982												
Queensland	73,667												
Western Australia	178												
South Australia	3,732												
Availability legend			High		Medium		Low						

Source: ASPGA

## Main Sweetpotato Varieties

There are four main sweet potato varieties grown in Australia for the fresh market. These varieties include:

**Gold sweetpotatoes**, also known as the Beauregard which has a rose/gold smooth skin with a moderate deep orange flesh. Gold sweetpotatoes accounted for **90%** of fresh production.

**Red sweetpotatoes**, also known as Northern Star which has a red purple skin, with bright white flesh. Red sweetpotatoes accounted for **7%** of fresh production.