

Grist Management

Key Considerations of Flour Production: A Miller's Perspective

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Key Considerations of Flour Production: A Miller's Perspective

- **Bunge (Aust.) - 17 ½ years**
 - Ballarat
 - Narrandera
 - Ballarat
- **Australian Wheat Board – 20 ½ years**
 - Baghdad
 - Cairo
 - H.O. (Melbourne)
- **Serendib Flour Mills – 2 years**
 - Colombo, Sri Lanka. Chief Technical Officer
- **Consultant Flour Miller – since 2009**

Key Considerations of Flour Production: A Miller's Perspective

- **South East Asia**
 - Indonesia – new Mills
- **Middle East – upgrading of older mills**
- **East Coast Africa**
 - Old milling companies expanding into neighbouring countries
 - Some have literally built their business on Australian Wheat

Key Considerations of Flour Production: A Miller's Perspective

- **Wheat procurement costs are at least 70% of the manufacturing costs for a Mill.**
- **Competition strong.**
- **Millers looking for an edge to gain any extra sales.**

Key Considerations of Flour Production: A Miller's Perspective

Assessment Criteria

1. Price

- Wider Range for procurement
- Eastern Europe
- Other wheat sources
- Freight

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Assessment Criteria

2. Suitability to End Product

- a) Special attributes
- b) Bread wheat for Bread biscuit wheat
for biscuits

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Assessment Criteria

3. Protein (Wet Gluten)

- a) Expensive
- b) Important Parameter - Quantity & Quality
- c) Miller's customers work on WG
- d) Eastern European dilemma – Russian Wheat Bug

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Assessment Criteria

4. Impurity Level

- a) No flour from Impurities
- b) 100 tonnes @ 5% = 95 tonnes Millable Wheat

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Impurities

	Wheat A	Wheat B
Parcel (Tonnes)	100	100
Impurity Level (%)	2	5
Millable Wheat	98	95

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Assessment Criteria

4. Impurity Level

- a) No flour from Impurities
- b) 100 tonnes @ 5% = 95 tonnes Millable Wheat
- c) More impurities less Millable wheat available
- d) Cleaning equipment – impurity type
 - Impurity percentage

- a) Freight Issue

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Assessment Criteria

5. Moisture Content

- a) An immediate impact on profit.

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Moisture

	Wheat A	Wheat B
Parcel (Tonnes)	100	100
Moisture Level (%)	10	12
Water Addition to 15% (Tonnes)	5.9	3.5
Millable Wheat	105.9	103.5

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Assessment Criteria

5. Moisture Content

- a) An immediate injection of profit
- b) High protein wheat actually require extra water during the Conditioning process
- c) Freight factor

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Assessment Criteria

6. Flour Extraction Potential

- a) An immediate injection of profit

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Potential Flour Extraction

	Wheat A	Wheat B
Parcel (Tonnes)	100	100
Flour Extraction (%)	78	75
Flour Produced (T)	78	75

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Assessment Criteria

6. Flour Extraction Potential

- a) Higher flour Extraction equals Higher Profit (*but not always*)
- b) Different varieties and Grades have different Flour Extractions
- c) White wheat has higher Extraction than Red Wheat
- d) The same variety grown in different growing regions have different Flour Extraction rates.

Key Considerations of Flour Production: A Miller's Perspective

Impurities, Moisture and Extraction

	Wheat A	Wheat B
Parcel (Tonnes)	100	100
Impurity Level (%)	2	5
Clean Wheat (T)	98	95
Wheat Moist (%)	10	12
Millable Wheat (T)	103.8	98.4
Milling Extraction (%)	78	75
Flour Produced (T)	82.5	73.8
50,000 tonnes(T)	41,250	36,900
		4,350 Tonnes

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Assessment Criteria

7. Reliability & Consistency

- a) Automated machinery.
- b) High tonnage throughput.
- c) Miller and his customer need consistency of product.

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Assessment Criteria

8. Hygiene

- a) Contaminated wheat
- b) Flour Mills going through a process of ensuring their mills minimise contamination.
- c) Mill and equipment design minimising “dead pockets”.

Key Considerations of Flour Production: A Miller's Perspective

The Grading System

- ✓ The Grading System has been the mainstay of Australian wheat quality
- ✓ As such millers around the world have come to rely upon it
- ✓ Provides millers with predictable flour quality
- ✓ Therefore, everything must be done to retain the reputation of Australian wheat Quality

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**Thank you for your
attention.**

**John Bunn
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