

Durum wheat agronomy demonstration

Method

Two 200m strips of the durum variety Arrivato were sown side by side at 90kg/ha. There was no replication.

Half of the plots had 33kg/ha of nitrogen (MAP + urea) applied at sowing; the other half had only 5kg/ha nitrogen (MAP) applied at this time. Both plots received a further 46kg/ha nitrogen during the season: strip 1 had 100kg/ha urea topdressed at Z30; strip 2 had 50kg/ha urea topdressed at Z30 and Z40.

A pre-sowing soil test showed 101kg/ha of available nitrogen in the top 60cm and a follow up deep N test in crop showed 218kg/ha of available nitrogen.

Decisions on input levels were made by the Wal Wal Lubeck TOPCROP Group with the aim of maximising yield and quality.

Chemical

600ml/ha Roundup[®] and g/ha Ally[®] (March 21)

1l/ha Roundup[®] (June 10)

700ml/ha LVE MCPA[®] (August 16)

250ml/ha Tilt[®] (September 30)

Results:

Table 1. Durum wheat yield and quality, Lubeck – variety Arrivato.

Urea at sowing (kg/ha)	Urea topdressed (kg/ha)	Yield (t/ha)	Protein (%)	Screenings (%)	Test weight (kg/hL)	Grade
60	100 @ Z30	3.4	14	5.3	73.14	DR3
60	50 @ Z30 + 50 @ Z33	3.5	14.2	4.4	74.14	DR1
0	100 @ Z30	3.8	14	5.7	76.38	DR1*
0	50 @ Z30 + 50 @ Z33	3.4	13.9	5.4	77.52	DR1*

*Dockage for screenings applies.

Interpretation:

- The high soil nitrogen levels at this site and follow up topdressing applications produced protein levels high enough for durum quality, however, yields were approx 0.8t/ha lower than Mitre grown at the same site.
- This demonstration shows it is possible to achieve protein levels above 13% in this district with careful paddock selection, soil nitrogen monitoring and follow up topdressing applications. However, these results were produced in a year with a tight finish. A longer, cool finish to the season will make high protein more difficult to achieve.
- In addition to the considerations of cost of urea application, risk of downgrade to feed quality and cartage to receival point, disease also must be taken into account. Arrivato has good rust and CCN resistance and was relatively free of disease in the 2003 season but there is no data yet available on crown rot.
- Crown rot is been a problem in all durum varieties. White heads were observed at harvest, indicating the presence of crown rot at this site.
- Some markets have a requirement for vitreousness (clear grain colour), and this has been another source of quality downgrades in previous years. For example DR1 has carried a >90% vitreousness parameter in the past. While no formal tests were done on grain from this site, visually the grain

was hard and clear looking. However, a year with a longer, cool finish will make this difficult to achieve.

- All durum varieties are susceptible to blackpoint, which increases the risk of quality downgrades.
- As this data is from one season only, Arrivato and other durum varieties need to be further tested to confirm their disease reactions, yield and quality performance in this district.