



Loveland

AGRI PRODUCTS
Get Growing

BARLEY

NPK

Granular and Foliar treatments

TEM16_21

Trial Design

- Treatments replicated 4 times on a randomised design
- Plot size – 10m x 1.75m
- Treatments Applied: Granular (MOP or Urea) 28-7-2016 – Z29 -30
Foliar (Black Label Zinc or Lokomotive) 18-8-16 – Z37-39

Seeding Date	7th May 2015
Site	Temora Research Station
Variety	Latrobe – 60 kg/ha treated with Systiva @ 150 ml/100 kg seed plus Gaucho @ 240 ml/100 kg seed.
Protocol	Pre Sow: Panzer 450 @ 2.0 lt/ha + Trifluralin 480 @ 2.0 lt/ha + Terbyne @ 1 kg/ha Post: Amine 625 @ 1.2 lt/ha + Lontrel @ 300 ml/ha + Pirimor @ 200 gm/ha (12-8-16)
GSP	Sowing fert: MAP @ 75 kgs/ha treated Flutriafol 500 @ 200 ml/ha

Soil Test Data

SOIL 0-10 cm	
pH (CaCl ₂)	5.7
eCEC cmol +/-kg	8.2
Calcium (Amm-acet) cmol +/-kg	5.7
Magnesium (Amm-acet) cmol +/-kg	1.0
Exch. Sodium %	0.9

Nitrate nitrogen (KCL) mg/kg	33
Ammonium nitrogen (KCl) mg/kg	1
Phosphorus (Colwell) mg/kg	45
Potassium (Amm-acet) cmol+/kg	1.4
Sulfate-S (KCl40) mg/kg	7.8
Copper (DTPA) mg/kg	0.95
Zinc (DTPA) mg/kg	0.52

Trial Protocol



Treatment	Treatment	Applied Rate kg/ha
T1	GSP	----
T2	GSP + Urea	100
T3	GSP + MOP	60
T4	GSP + MOP + Urea	60 + 100
T5	GSP + MOP + Urea + BLZn	60 + 100 + 5 lt
T6	GSP + Lokomotive	5 lt
T7	GSP + BLZn	5 lt
T8	GSP + BLZn + Lokomotive	5 lt + 5 lt
T9	GSP + Urea + Lokomotive	100 + 5 lt
T10	GSP + MOP + BLZn	60 + 5 lt

Black Label Zinc = BLZn – N-8; P-11.5; Zinc-1 (%w/v)

Lokomotive – N-3; K-27 (%w/v)

Barley Yield and Quality

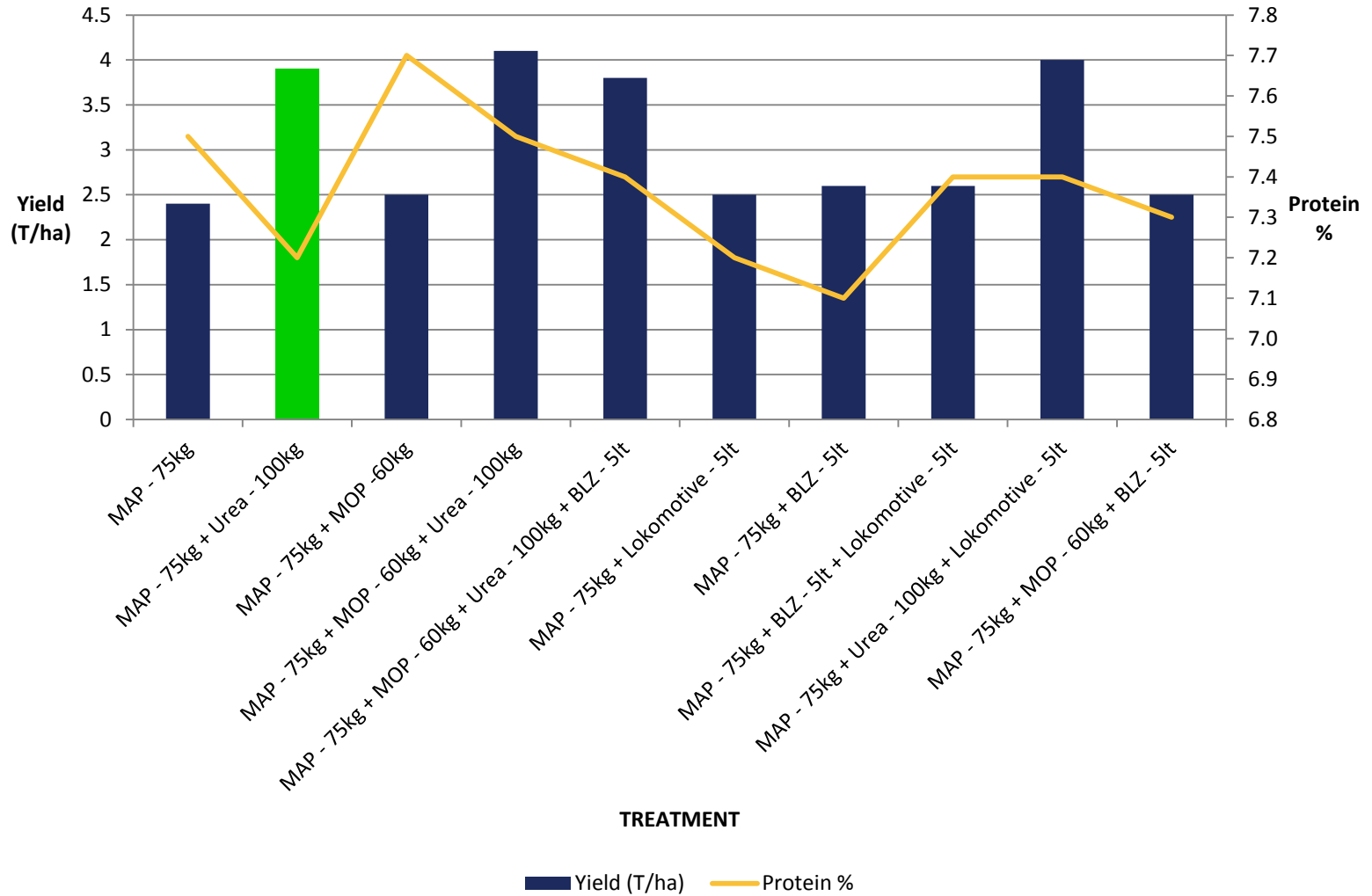
Treatment	Applied Rate kg/ha	Grain Yield t/ha	Protein %	Screening %	Retention %
GSP	----	2.4 b	7.5	2.1	91.0
GSP + Urea	100	3.9 a	7.2	2.6	90.7
GSP + MOP	60	2.5 b	7.7	2.0	92.2
GSP + MOP + Urea	60 + 100	4.1 a	7.5	3.4	85.7
GSP + MOP + Urea + BLZ	60 + 100 + 5 lt	3.8 a	7.4	2.9	89.7
GSP + Lokomotive	5 lt	2.5 b	7.2	2.8	87.7
GSP + BLZ	5 lt	2.6 b	7.1	2.1	91.0
GSP + BLZ + Lokomotive	5 lt + 5 lt	2.6 b	7.4	1.9	92.0
GSP + Urea + Lokomotive	100 + 5 lt	4.0 a	7.4	2.8	89.4
GSP + MOP + BLZ	60 + 5 lt	2.5 b	7.3	3.0	86.9

Yield Statistics

LSD (P=0.05) = 0.77

CV = 17.09

YIELD vs PROTEIN

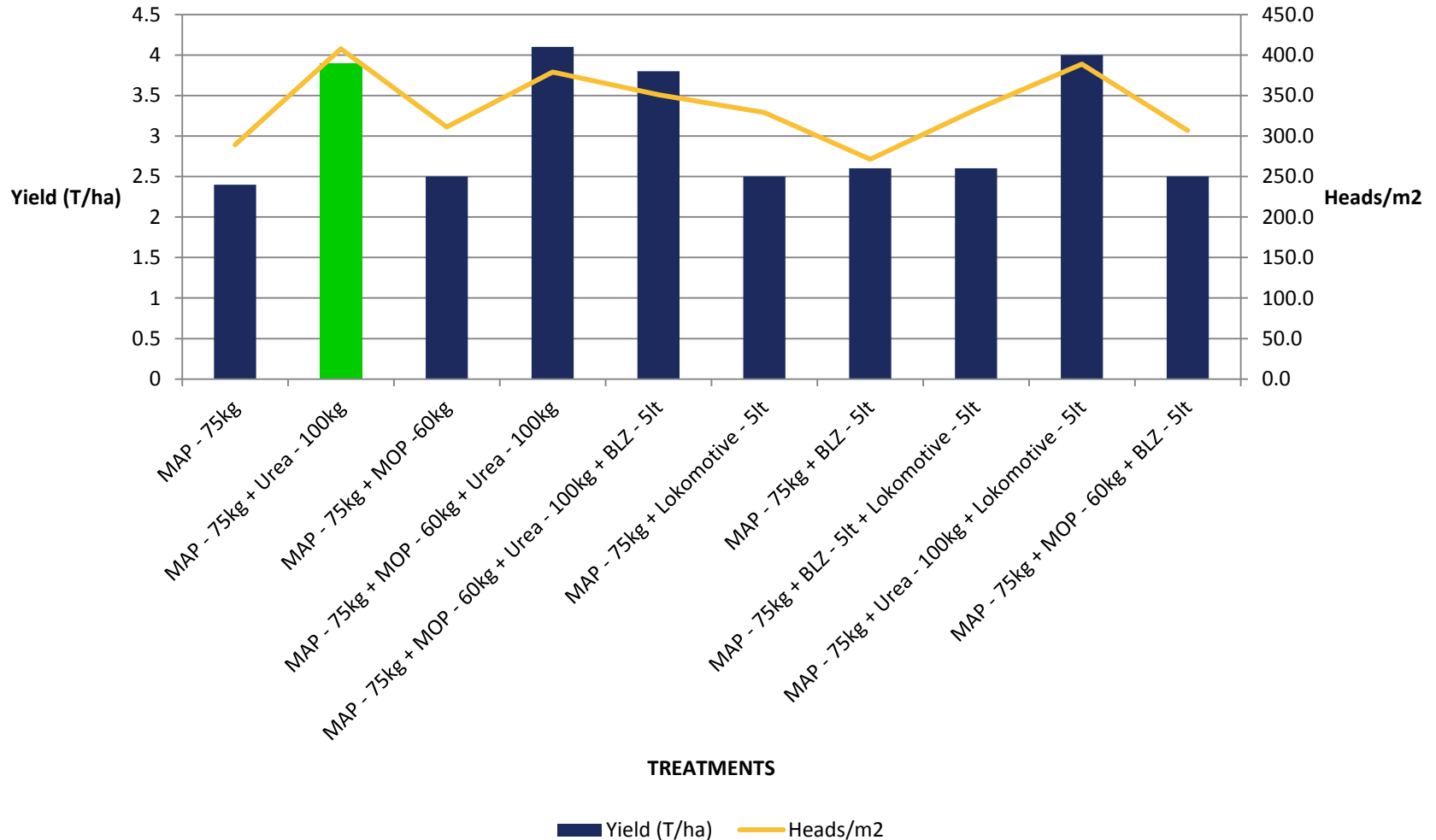


Barley – Head Counts

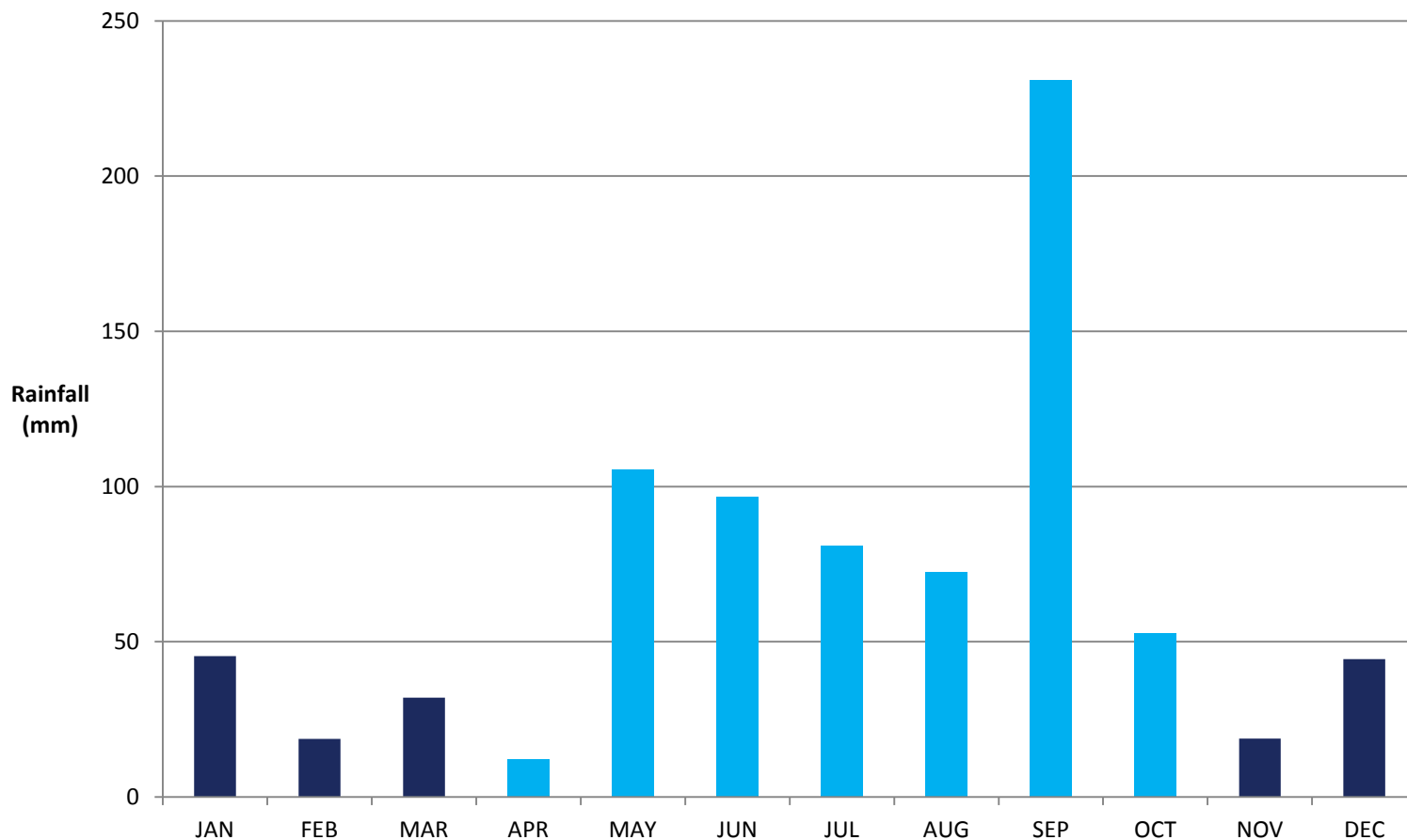
Treatment	Applied Rate kg/ha	Heads/m 25-10-16	Heads/m ²
GSP	----	65.75	289.3 dc
GSP + Urea	100	92.63	407.6 a
GSP + MOP	60	70.75	311.3 cde
GSP + MOP + Urea	60 + 100	86.13	379.0 abc
GSP + MOP + Urea + BLZ	60 + 100 + 5 lt	79.75	350.9 a-d
GSP + Lokomotive	5 lt	74.75	328.9 b-e
GSP + BLZ	5 lt	61.63	271.2 e
GSP + BLZ + Lokomotive	5 lt + 5 lt	75.63	332.8 b-e
GSP + Urea + Lokomotive	100 + 5 lt	88.38	388.9 ab
GSP + MOP + BLZ	60 + 5 lt	69.75	306.9 de

- **Head Count/m² Statistics**
- **LSD (P=0.05) = 72.032**
- **CV = 14.75**

YIELD vs HEADS/m2



RAINFALL DATA - TAIC 2016



- **Total for Year:** 810.8 mm
- **Total - April – October:** 651.5 mm

Conclusions

- This trial showed some statistical and economic differences
- Yield range was 2.4 – 4.1 T/ha
- Protein range was 7.1 – 7.7%, with all Screenings under 3.5%
- GSP (MAP 75kg) yielded 2.4 T/ha at 7.5% Protein
- GSP + Urea 100kg – yielded 3.9 T/ha – a 63% increase on GSP
- **GSP + Urea 100kg + MOP 60kg – yielded 4.1 T/ha – a 71% increase on GSP**
- **GSP + Urea 100kg + Lokomotive 5lt – yielded 4 T/ha – visually impressive treatment at field day**
- GSP + Urea 100kg + MOP 60kg + BLZ 5lt – yielded 3.8 T/ha
- Heads/m² ranged from 271.2 – 407.6
- **Potassium has best response when applied early and with Nitrogen**