Table 3. Economic consequence of grazing management of dry matter (kg/ha) removed and grain yield (t/ha).

	Grain Yield		Grazing Yield		Grazing Value compared to grain only
	t/ha	$ (@ $300/t)	kg/ha	$ (@ $0.25/kg)	$
Trojan; untreated	7.21	2163	0	0	0
Trojan; Hard graze	6.79	2037	300	75	-51
Trojan; Light graze	7.18	2154	100	25	+16
Trojan GS32 graze	5.30	1590	2000	500	-73
RGT Accroc; Untreated	8.88	2664	0	0	0
RGT Accroc; Hard graze GS31	6.80	2040	4300	1075	+451
RGT Accroc; Light graze GS31	7.34	2202	3700	925	+463
RGT Accroc; Hard graze GS29	8.81	2643	3200	800	+779
LSD p=0.05	0.47		600		
P val	<0.001		<0.001		

Table 4. Details of the management levels (kg, g, ml/ha).

Sowing date:		**25-April**
Seed Rate:		180 seeds/m^2
Sowing Fertiliser:		100kg/ha MAP
Seed Treatment:		Vibrance & Gaucho
Grazing:		As per treatment list
Nitrogen:	23 June	69 N kg/ha
	7 August	69 N kg/ha
PGR:	GS30	Moddus Evo 100mL/ha + 0.65L/ha Errex
	GS32	Moddus Evo 100mL/ha + 0.65L/ha Errex
Fungicide:	GS31	Opus 500ml/ha
	GS39	Radial 840ml/ha
	GS61	Prosaro 300ml/ha

Trial 6. Nutrition for Hyper Yielding Wheat

Objectives: To assess the value of higher nutrition input (N, P, K & S) for wheat in the growing season and as an "N bank" for the following season.

Individual objectives specific to the trials were:

- To assess the value of additional nutrients in the growing crop (set up as small plots at the HYC Research sites) and for the following crop (mirror image trial set up in the host farmer's surrounding paddock).

- To assess the value of adding increased P, K, and S when targeting higher yield potential rather than N alone.

Key Points:

- *There was no response above the standard N input of 148kg N/ha, which also included a standard of 100kg/ha MAP at sowing (10N, 21.9P).*
- *Protein levels in the standard control were increased from 9.7% to 11% with additional N application but the increases were not associated with higher grain yields.*
- *At harvest there was no evidence of dry matter increases associated with greater nutrition input.*
- *Test weight was unaffected by the nutrition strategy in this trial, but there was a very slight increase in screenings.*

Treatments: Five different nutrition strategies were put in place in RGT Accroc that differed in the level of nutrition (N, P & S). The same trial was set up in the surrounding farm crop. The starting mineral nitrogen (N) available in the soil was 103.5kg N/ha (0-60cm) taken on 21 May.

Table 1. Detailed treatment list, grain yield (t/ha) & % site Mean.

Trt.		Nitrogen rate	Phosphorus rate	Sulphur rate	Yield	Mean
		kg N/ha	kg P/ha	kg S/ha	(t/ha)	(%)
1	Current Practice	148	22	---	10.14 -	101.4
2	Current Practice +25% N	183	22	---	10.29 -	102.9
3	Current Practice +25%NPS	183	22	30	9.92 -	99.2
4	Current Practice +50% N	217	22	---	9.73 -	97.3
5	Current Practice +50%NPS	217	22	45	9.91 -	99.1
				Mean	9.99	100.0
				LSD (p=0.05)	ns	ns
				P Val	0.180	0.179

Note: All treatments received 100kg/ha MAP (10N: 22P) which is included in the treatment details

Table 2. Influence of nitrogen rate on grain quality, protein (%), test weight (kg/HL) and screenings (%).

	Nitrogen rate	Phosphorus rate	Sulphur rate	Protein	Test weight	Screenings
Trt.	**kg N/ha**	**kg P/ha**	**kg S/ha**	**(%)**	**(kg/HL)**	**(%)**
1	148	22	---	9.7 c	78.4 -	1.3 b
2	183	22	---	10.2 b	78.4 -	1.4 b
3	183	22	30	10.4 b	78.0 -	1.4 b
4	217	22	---	10.4 b	78.0 -	1.7 a
5	217	22	45	11.0 a	77.4 -	1.7 a
			Mean	10.3	78.0	1.5
			LSD (p=0.05)	0.5	ns	0.2
			P Val	0.001	0.829	0.005

Table 3. Influence of nitrogen rate on harvest dry matter (t/ha), head (m^2).

	Nitrogen rate	Phosphorus rate	Sulphur rate	Harvest Dry Matter	Heads
Trt.	**kg N/ha**	**kg P/ha**	**kg S/ha**	**(t/ha)**	**m^2**
1	148	22	---	16.4 -	386.4 -
2	183	22	---	17.7 -	435.5 -
3	183	22	30	18.6 -	448.9 -
4	217	22	---	17.9 -	431.6 -
5	217	22	45	18.1 -	463.2 -
			Mean	17.7	433.1
			LSD (p=0.05)	ns	ns
			P Val	0.497	0.398

Table 4. Site soil test details

	Level Found
ECEC	15.9 cmol/kg
Organic Carbon W&B	2.37 %
pH 1:5 water	6.15
Total Mineral N*	103.5 kg N/ha
Colwell Phosphorus	130 mg/kg
Colwell Potassium	410 mg/kg
KCl Sulfur	21 mg/kg

*Mineral N 0-60cm, all other results 0-10cm depth sampled 11/6/2020

Table 3. Details of the management levels (kg, g, ml/ha).

Sowing date:		**25-April**
Seed Rate:		180 seeds/m^2
Sowing Fertiliser:		100kg/ha MAP
Seed Treatment:		Vibrance & Gaucho
Grazing:		Nil
Nitrogen:	23 June	69 N kg/ha ± treatment list
	7 August	69 N kg/ha ± treatment list
PGR:	GS30	Moddus Evo 100mL/ha + 0.65L/ha Errex
	GS32	Moddus Evo 100mL/ha + 0.65L/ha Errex
Fungicide:	GS31	Opus 500ml/ha
	GS39	Radial 840ml/ha
	GS61	Prosaro 300ml/ha

Trial 7. Erect Head Control in April Sown Wheat

Objectives:

To assess the principal causes of erect heads in April sown wheat crops

Individual objectives specific to the trial were: