The Role of Forage Brassica

Now and in the future

What area is sown of forage brassica?

• How do you quantify the actual area sown?

Facts and figures

Forage brassicas – hectares sown for the year ended 30 June 2018

Region	Forage brassicas (Hectares during the year ended 30 June 2018)	Region	Forage brassicas (Hectares during the year ended 30 June 2018)
Northland Region	2225	Wellington Region	6357
Auckland Region	724	West Coast Region	3480
Waikato Region	15368	Canterbury Region	77133
Bay of Plenty Region	2850	Otago Region	52860
Gisborne Region	1458	Southland Region	43658
Hawke's Bay Region	10716	Tasman Region	1379
Taranaki Region	3923	Nelson Region	3
Manawatu-Wanganui Region	16168	Marlborough Region	1574
Total New Zealand		•	239,875

Source: StatsNZ Agriculture Production Survey 2018. Unclear from the StatsNZ report if this includes summer brassicas, or fodderbeet.

Why?

- Cost per kg DM
- Cost per kg ME
- Seasonal distribution
- Fit into system

WINTER GRAZING IN NZ *

Proprietary Seed Market Size - Hectares										
Pagion	Permanent	Italian	Annual	Lucarna	Braccica	Maiza	Maize -	Fodder		
Northland	Pasture	2 000	F 500	Lucerne	2 000	8 000	0.000	100		
Northanu	3,000	3,000	3,500	250	2,000	0,000	9,900	100		
Waikato	31,000	7,000	22,500	250	6,000	31,500	39,000	500		
Bay of Plenty / King Country	23,000	8,000	7,000	650	19,000	6,300	7,850	1,000		
Taranaki / Manawatu	21,000	3,500	4,500	200	21,500	15,000	18,500	1,500		
Wairarapa / East Coast / Hawkes Bay	32,000	12,500	15,000	1,650	47,000	10,000	12,500	2,000		
Tasman	7,000	2,000	750	600	6,500	500	650	1,500		
Canterbury	51,000	16,000	5,500	2,900	73,000	6,500	9,000	28,000		
Otago	21,000	6,000	3,000	3,400	40,000			9,000		
Southland	36,000	4,500	2,000	650	120,000			20,000		
Total Hectares	231,000	62,500	65,750	10,300	335,000	77,800	97,400	63,600		

Source: PGG Wrigtson provided this table to the Winter Grazing Taskforce 12 September 2019. Figures are based on information from PGG Wrightson, as well as data provided to PGG from other agronomy companies in NZ. The information has not been verified.



What area is sown of forage brassica?

- The reality is nobody knows!! But it is over 300,000ha for brassica
- Assumptions based on assumed average sowing rate for each crop
- Plus some brassica products are mixed



- Agency products will be accurate eg fodder beet 2020 more like 50-60,000ha 2020 (Southland IWG report 68,000ha of fodder beet in Southland 2020 sown??!)
- Give this some context kale double beet, even swede will be higher
- For winter, brassica would likely exceed 200,000ha
- Fed to all classes of livestock sheep, beef, dairy, deer
- This creates a dilemma how do you make decisions on false information?



Should I care?

- Yes.... because the rules are changing
- It will affect stocking rate and what we feed into the future
- Example Intensive Winter Grazing......Land and Water
- On hold ... no BUT wait not at regional level
- Conflicts between best practices?



• Effectively at a tipping point, where to from here..... What's to replace

250,000ha of winter forage brassica and fodder beet?





Leafy turnip - Pasja



Summer turnip - Barkant



Hard turnip – Green Globe









New species











New technology

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CLEANCROP™ BRASSICA SEED

Cultivars that have been BRED to be tolerant to the sulphonyl urea herbicide Telar[®]

FMC Telar® HERBICIDE

A broad spectrum herbicide that provides EXCELLENT control of broadleaf weeds from the preemerge stage





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htson Seeds

Not all DM created equal – 1kg DM*



pggwrightsonseeds.co.nz



*Illustrative examples **only**; not to scale; starch levels are negligible in these types of feed

Nutritional

 One of the greatest dangers is assuming all brassica crops are the same for feed value

	Swede				Winter Turnip				Kale		Forage Rape	
Feed Leaf		Bulb		Leaf		Bulb						
Analysis	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range
Nutritiona	l Factor.	s										
DM %	13	12-15	10.9	9-12	14	13-16	10	9-11	16	15-18	13	12-17
OM %	88	85-92	96	90-95	83	80-85	90	88-92	91	85-95	90	88-92
OMD %	92	88 - 94	97	95-99	89	85-90	95	93-97	88	75-85	89	80-90
CP %	20	18-21	9	7-12	20	15-29	9	7-12	16	12-20	22	15-24
WSC %	28	25-30	58	50-63	*	*	41	50-61	25	20-30	28	25-30
NDF %	*	əlic	14	γ¢	*	*	7	*	25	23-26	25	15-26
ADF %	13	əle	11	10-14	*	*	ąc	*	19	17-24	13	12-15
MJME	13.2	əļc	14.9	×	12.5	11-13	13.6	13.6-13.8	12.0	11-13	12.5	12-13.
Minerals (per / kg	DM)										
N (g)	26	25-55	27	25-28	26	25-55	25	25-27	30	25-55	30	25-55
Ca (g)	25	10-40	3	1-4	25	18-40	5	4-6	25	5-40	9	9-20
P (g)	3	2-5	3	2-4	4	3-7	4	2-4	3	2-7	5	4 - 6
S (g)	7	6-8	4	3-5	6	3.5-8	6	4-8	7	3-8	6	5-7
Mg (g)	2	1-5	1	0.5-2.0	4	3-6	1.8	1.5-2.5	2	1.0-7.0	2	0.05-3
K (g)	15	10-35	15	10-25	*	25-50	35	28-45	25	17-50	36	10-35
Na (g)	3	0-6	1.5	0-3.0	2.5	0-4	1.5	0-4.0	1	0-3	0.58	0-6
Cl (g)	Nr.	sk	*	*	19	*	6.5	*	*	*	4.5	*
Cu (mg)	4	2-8	3	1-8	5	2-8	3	2-8	4	2-8	4	3-8
Zn (mg)	×	10-35	*	10-35	*	20-100	*	10-60	*	10-200	24	10-35
Mn (mg)	Nr.	40-150	*	5-15	*	30-300	*	14-45	*	10-300	*	15-50
Fe (mg)	γic	200-700	*	50-350	*	80-400	*	60-400	*	40-400	*	40 - 40
Co (mg)	0.8	0.01-0.3	0.03	0.01-0.3	0.07	0.06-0.08	0.04	0.04-0.07	0.1	0-0.4	*	*
Se (mg)	0.05	0-0.1	0.03	0-0.03	0.06	*	0.03	*	0.05	0.03-0.12	*	*
I (mg)	0.3	0.2-0.6	0.03	< 0.05	*	*		×	0.1	0.05-0.15	*	aje



Anti-Nutritional

- Unlike fodder beet often focus is on the anti-nutritional factors
- Brassicas have intake disorders like everything else
- Biggest two nitrate poisoning and acidosis
- Others linked to brassicas; scald, SMCO and glucosinolates





The danger in assuming the same.....









Nutritional

- Fundamentally the biggest issue is under feeding
- Spend a lot of time ensuring correct allocation of feed
- Complementing intake of crop with correct supplement
- Correct method of feeding











Considerations Going Forward

- Fundamentals of growing crops remains the same
- Its becoming highly specialised
 - New cultivars
 - New technology
 - Crop rotation planning
- Consider the impact of:
 - Climate change we are seeing the impact now!
 - EFP Environmental Farm Plan and Foot print
 - Land and Water Reform
 - Carbon emissions
 - Wastage
 - Animal welfare
 - Health and Safety
 - Public perception domestic and international







GETHOLISTICHERLTH COM You are not gluten intolerant, you are glyphosate intolera Chushy belowing Discords on Paperturista, Kay on data introducement and calls

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Should councils stop using the weedkiller glyphosate?

Then.....













Now.....

App based



Seed placement Fertiliser placement



Cultivar Plants per ha



Detailed records

Speed A

Auto Steer





Outcome





- Leaf 5t /dm/ha
- Bulb 28t/dm/ha
- Total = 33 t/dm/ha



Considerations Going Forward





Stratigic resident of PCAs a second state the dispersor of resident The PCAs is shaded in fully





Its evolving

Looking at forage crops in new way



Catch-cropping

Alternative Feeds









Summary

- Brassicas play a very important role in New Zealand farming systems
- High quality feed that needs to be feed accordingly
- More technical strength required to ensure we get the best outcomes
- Alternative systems need to be looked at in their own right

