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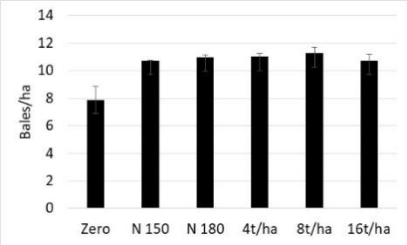
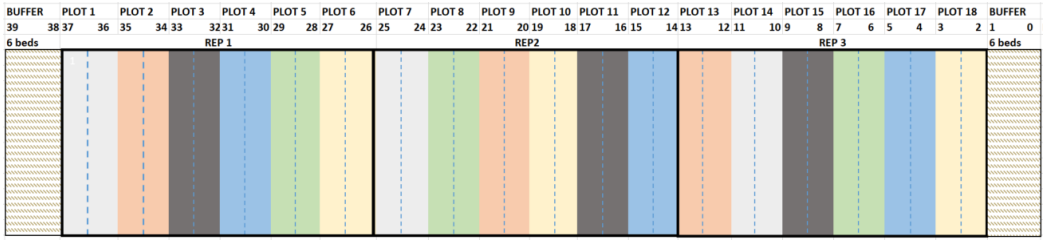
Can chicken litter be used as a reliable supply of supplemental in-crop N and P whilst simultaneously improving long term soil health?

2017 Yield comparison of different rates of manure supplementing 150 kg N/ha urea-N.



- Yield governed by factors other than nutrients – irrigation, indigenous soil properties.
- Chicken litter can realistically offer complete replacement of P.

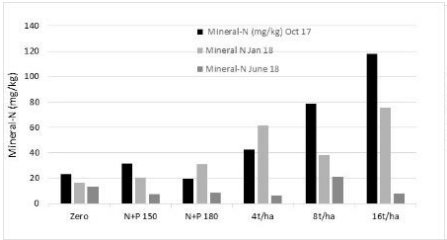
2nd year: cotton-cotton
Manure applied 13/6/2018 – left to overwinter
Planted 12/10/2018; Var. BRF 748; 16 seeds/m; 1st irrigation 17/10/2018
Trial Treatments: 6 x 3 reps – blocked, normalised to 300 kg N/ha, 0 kg/ha P
Trial Layout

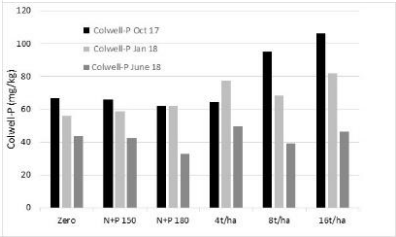


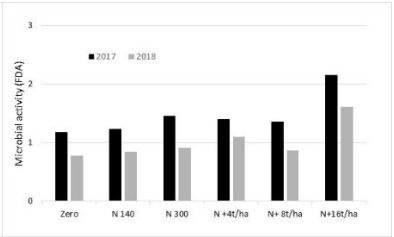
Trial Treatments

	Treatment	Pre-plant-N	Top Dress 1-N	Top dress 2-N	Total Fert-N	Total Manure-N	Total N	Total P
	Zero	90	0	0	90	0	90	0
	N 140	138	0	0	138	0	138	0
	N 300	138	74	83	295	0	295	0
	N +4t/ha	138	50	50	238	53	291	15
	N+ 8t/ha	138	23	23	184	106	290	30
	N+16t/ha	90	0	0	90	212	302	60

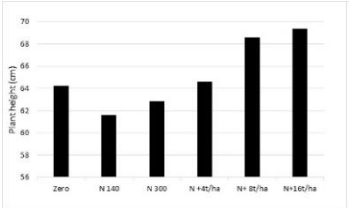
Soil

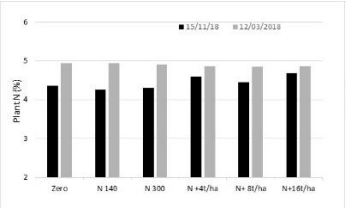


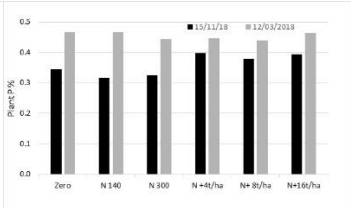




Plants







- ~ 200 kg N/ha regardless of source = similar yield. 4 tonnes/ha of chicken litter gives approximately 50 kg N and 15- 20 kg P in year of application.