Crop Analyses

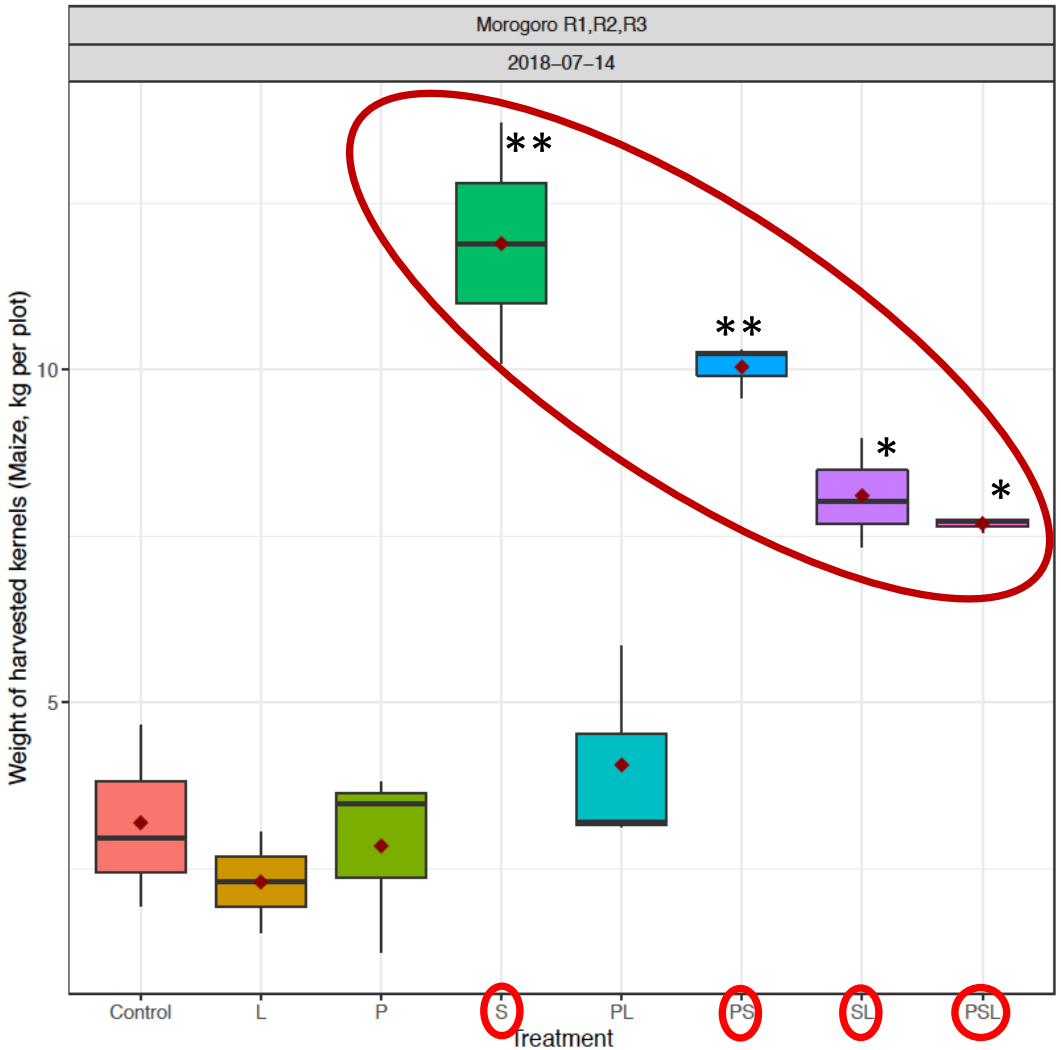
Field trials 2018

with the help of Simon Crameri

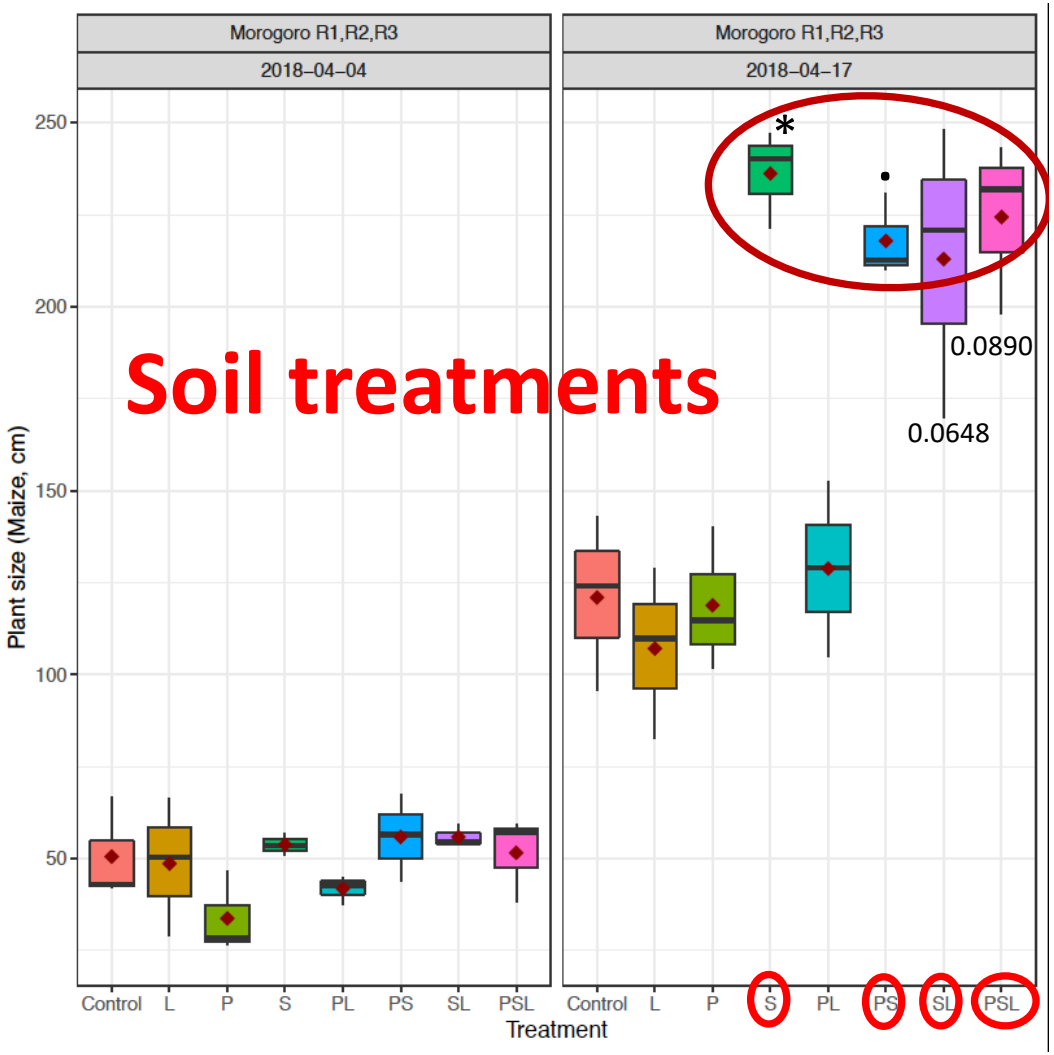
MOROGORO

Morogoro

Weight harvested kernels



Plant height

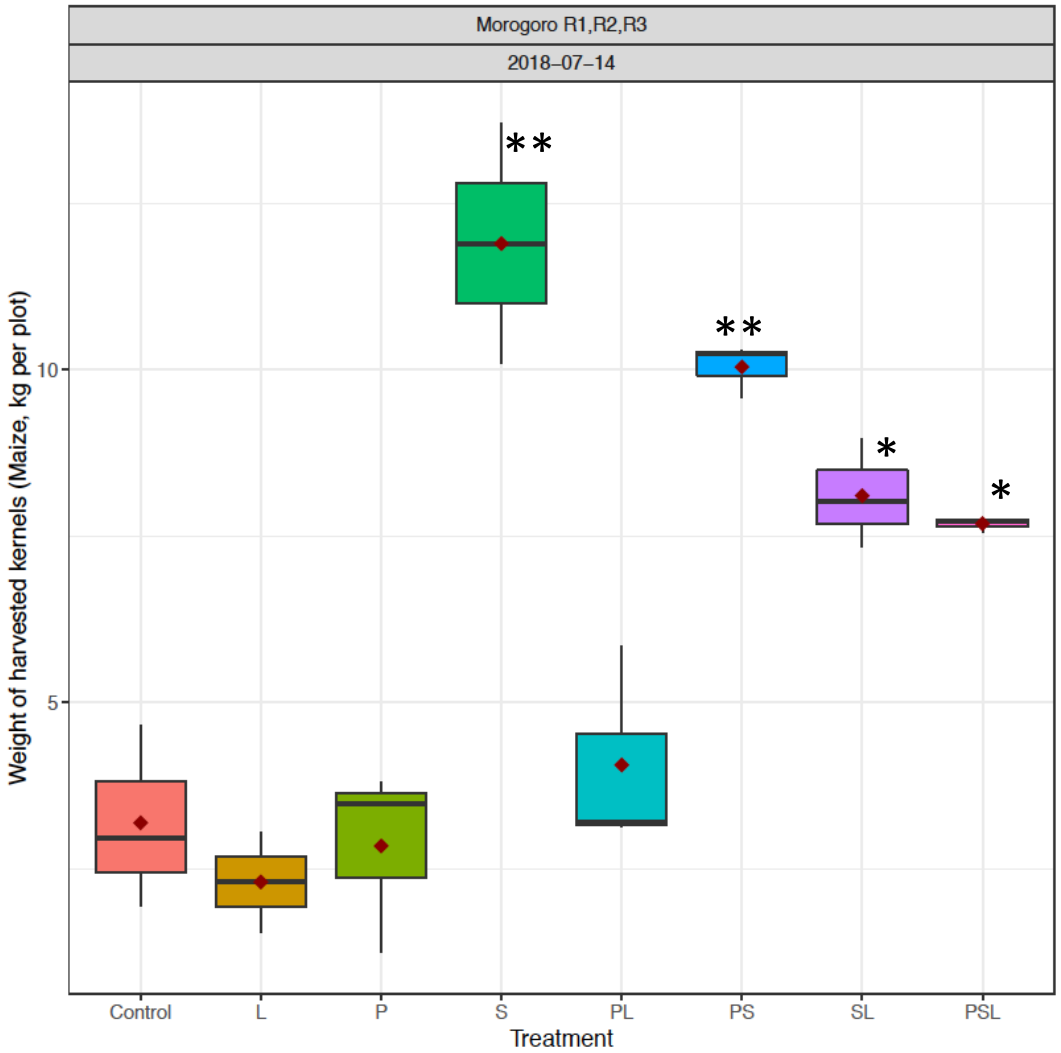


No pulses harvested

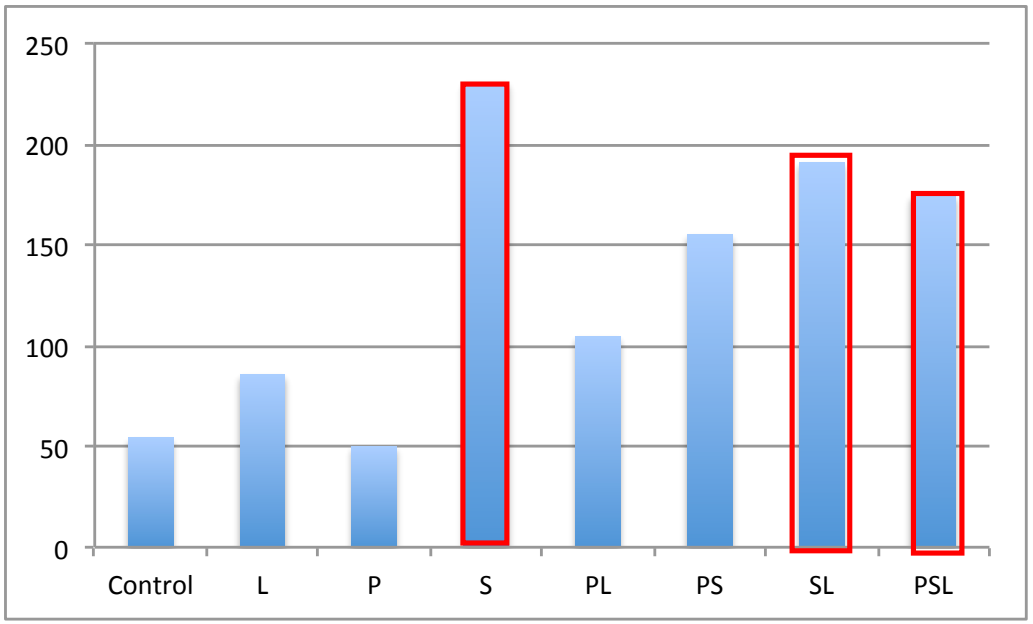
Signif. codes: 0.0005***; 0.001**; 0.01*; 0.05•

Morogoro

Weight harvested kernels



Weight harvested kernels / survived plant



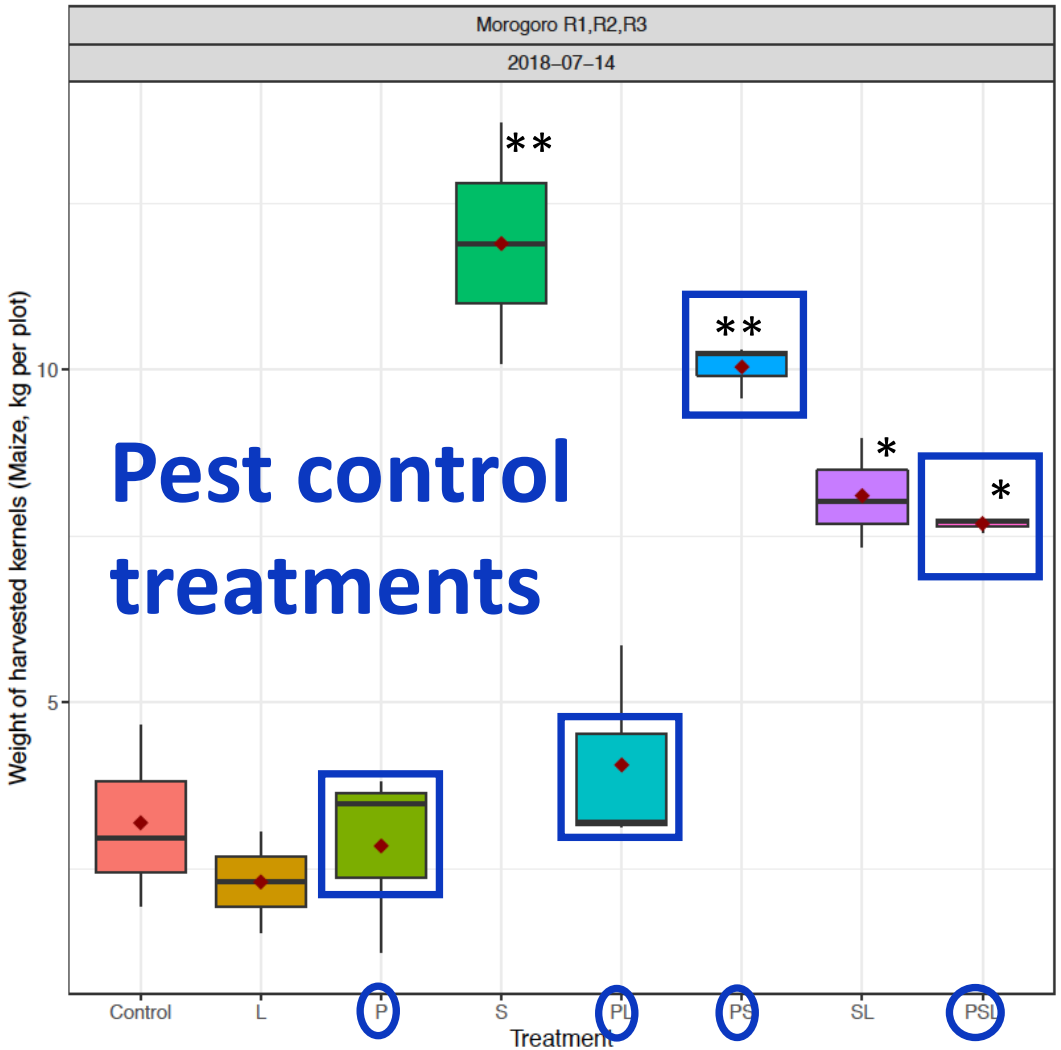
no numbers of survived plants without cobs

No pulses harvested

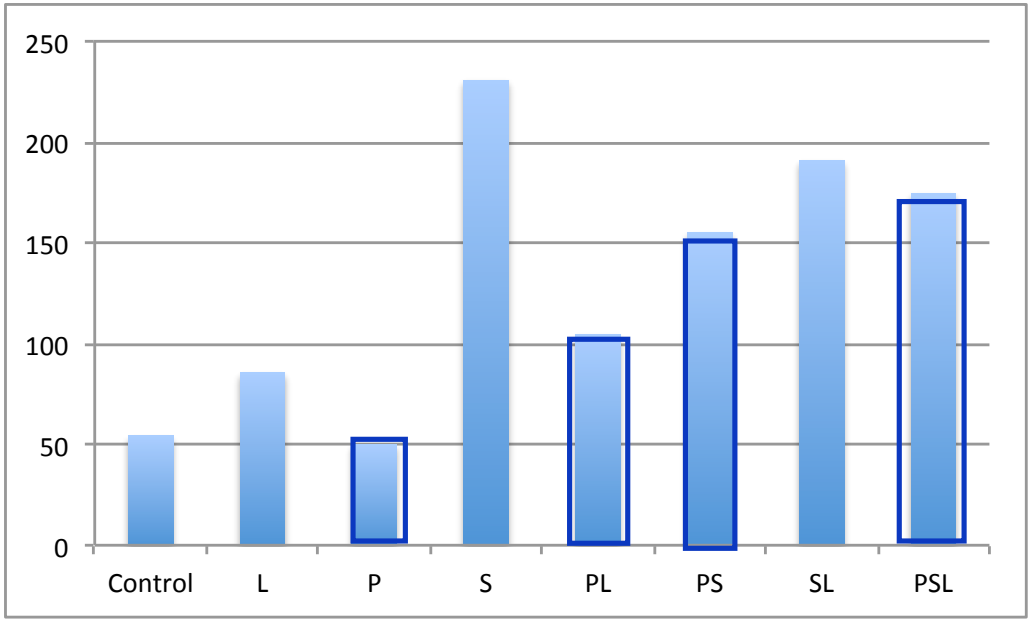
Signif. codes: 0.0005***; 0.001**; 0.01*; 0.05•

Morogoro

Weight harvested kernels



Weight harvested kernels / survived plant



no numbers of survived plants without cobs

No pulses harvested

Signif. codes: 0.0005***; 0.001**; 0.01*; 0.05•

CONCLUSIONS Morogoro data

Soil measures had a clear effect - increased productivity significantly

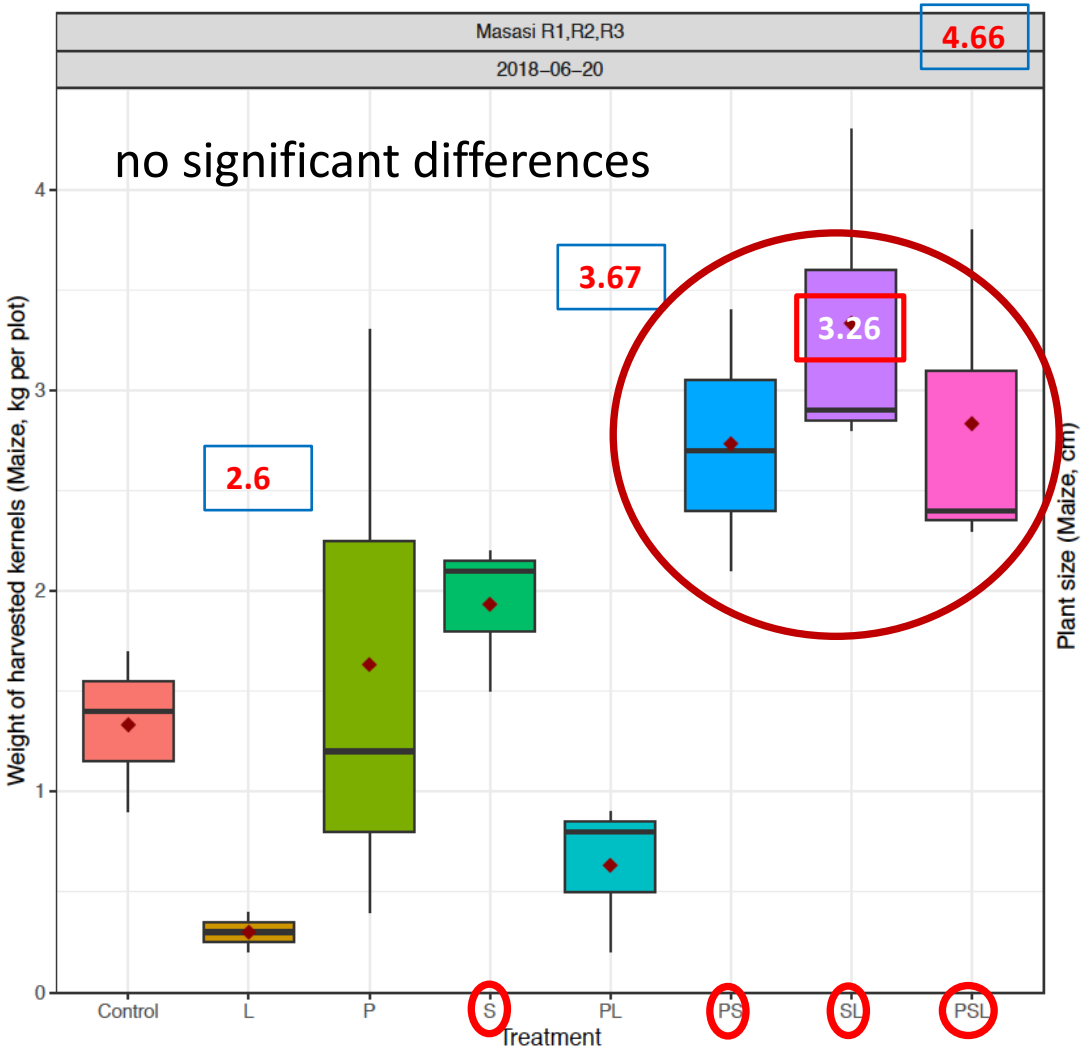
Pest control measures ambivalent, often not performing better than in control, seem to have a ‘quenching’ effect?

Legumes did not exert an impact because they had been destroyed by pests early on

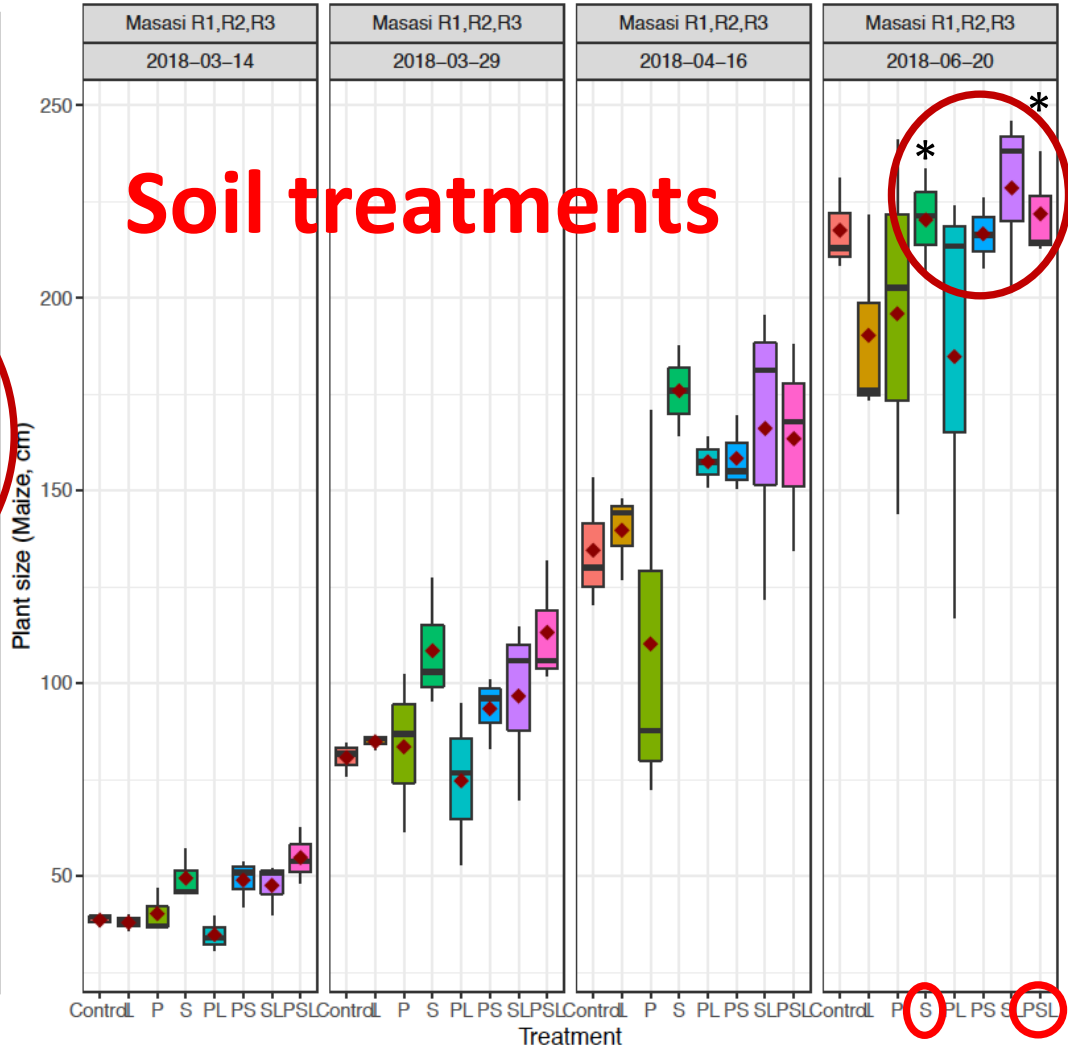
MASASI

Masasi

Weight harvested kernels



Plant Size

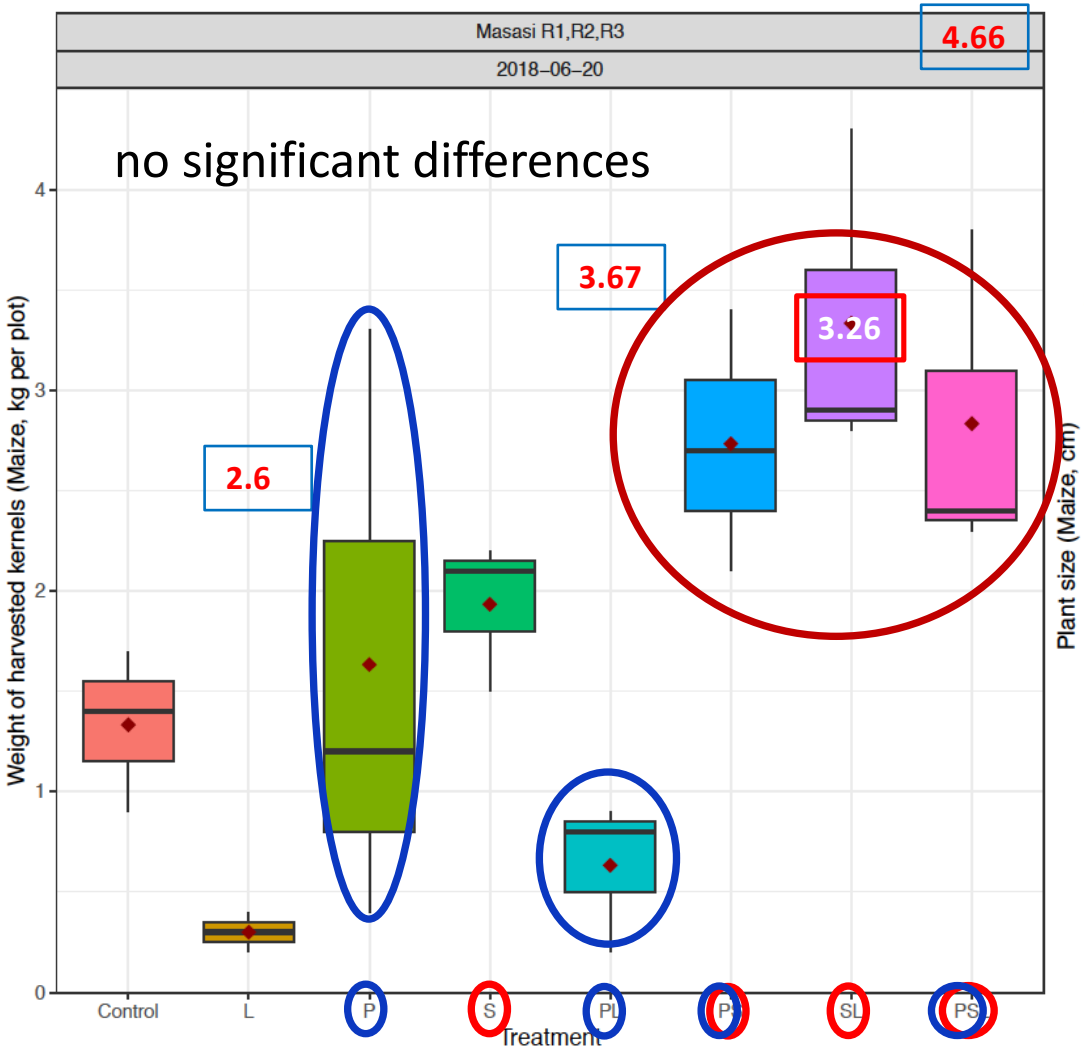


0.08 = harvested pulses in kg/plot

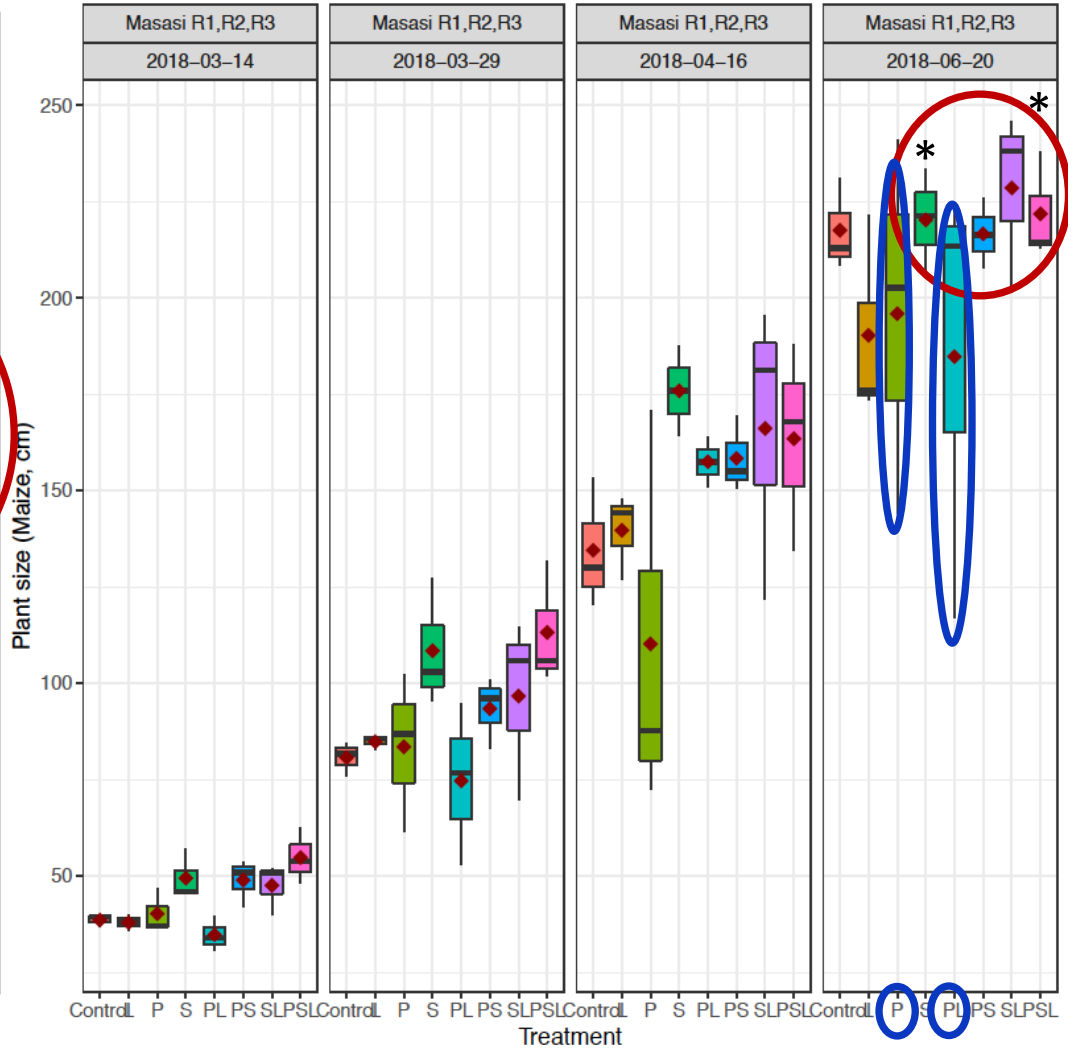
Signif. codes: 0.0005***; 0.001**; 0.01*; 0.05•

Masasi

Weight harvested kernels



Plant Size



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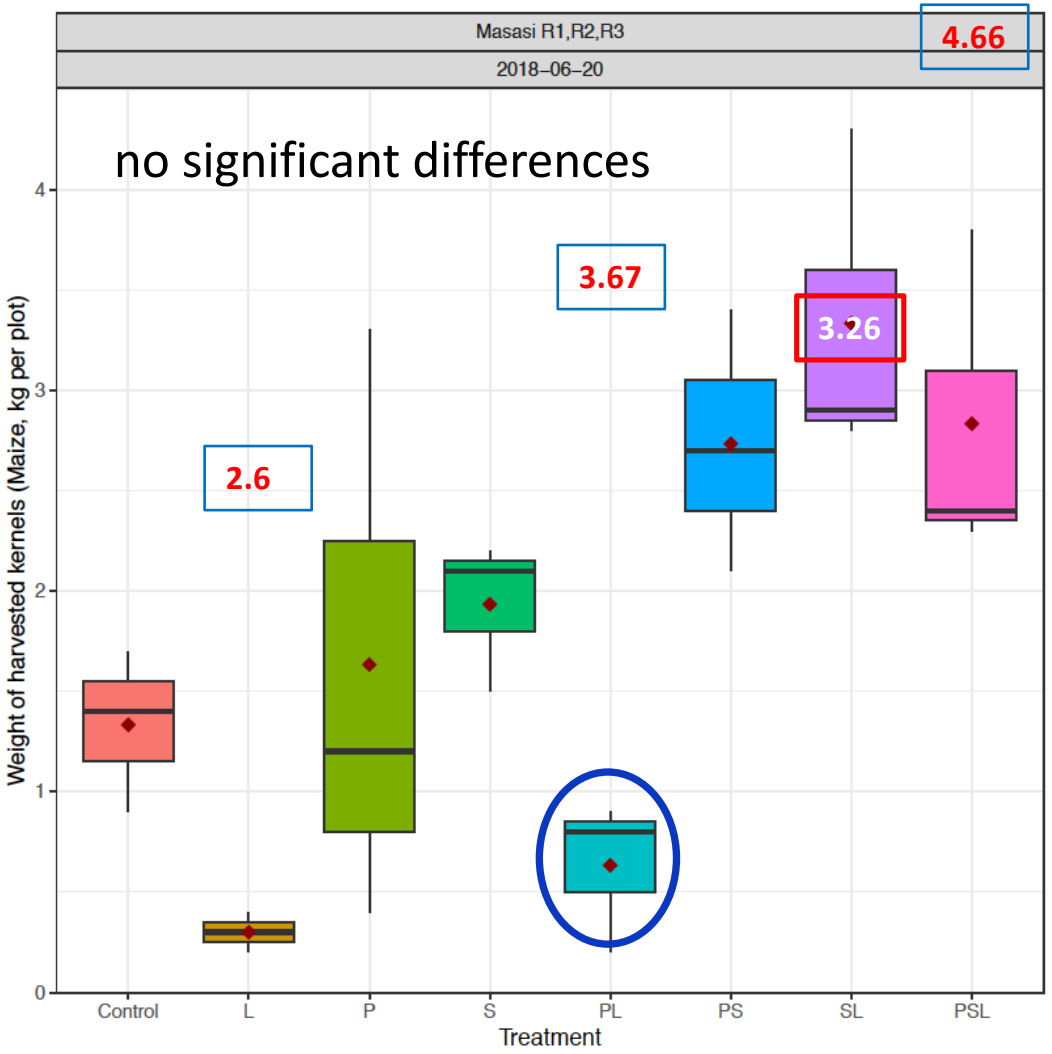
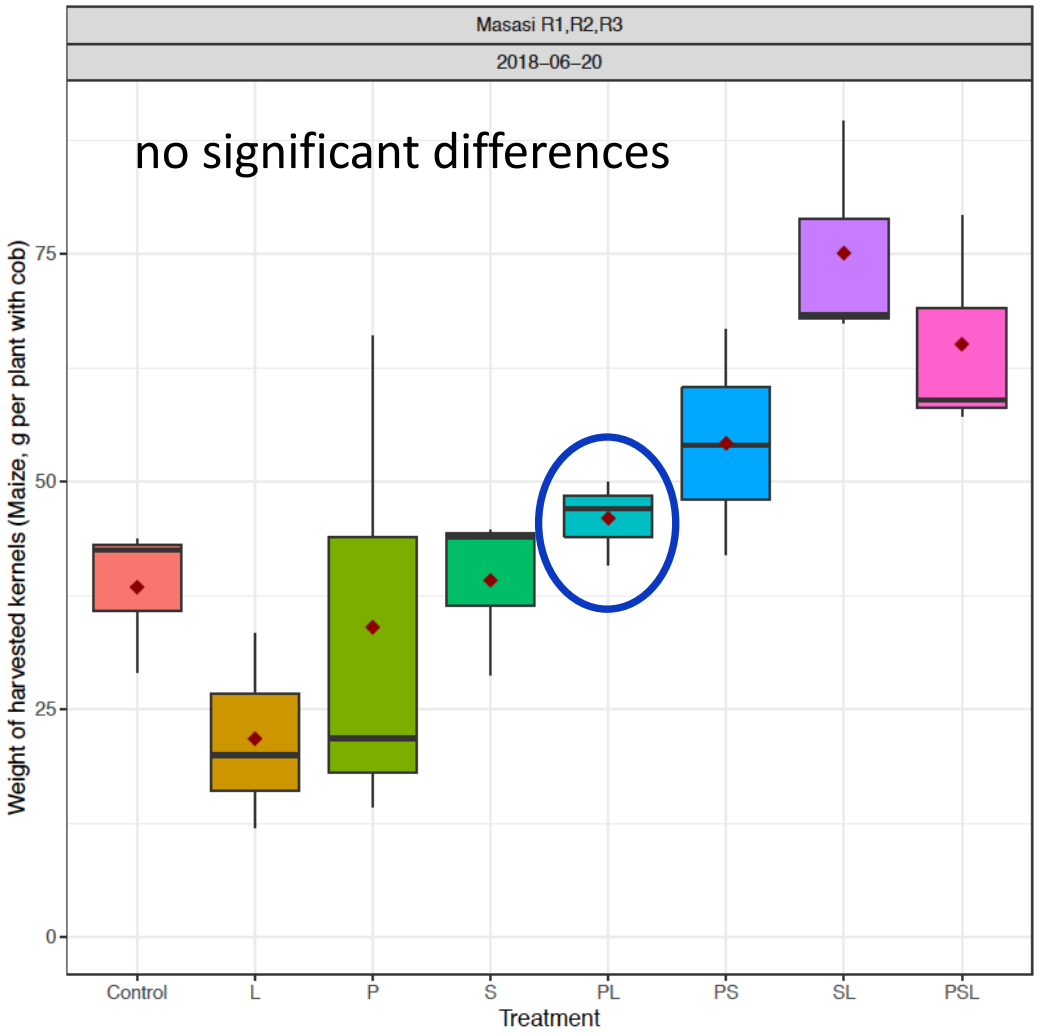
Masasi

Weight harvested kernels



Weight harvested kernels / plant with cobs

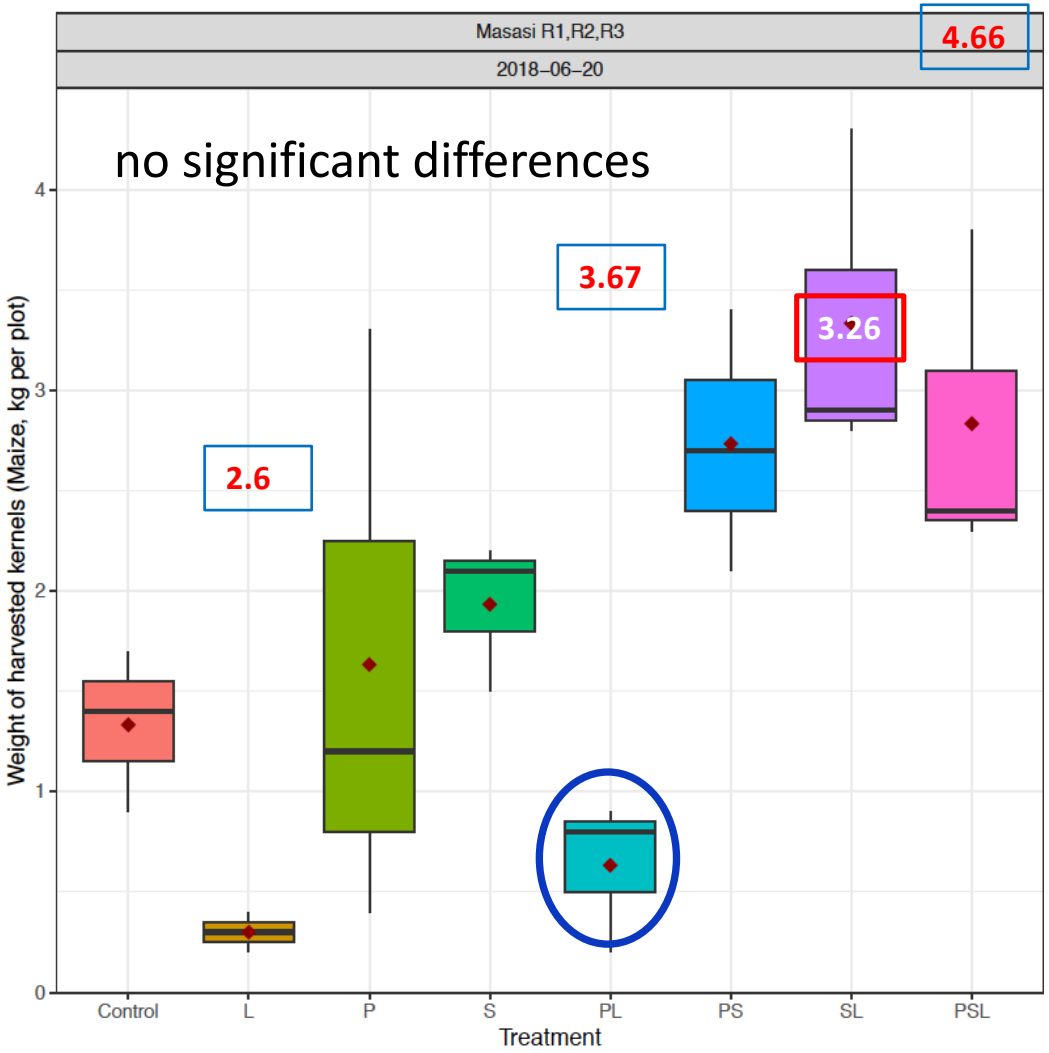


0.08 = harvested pulses in kg/plot

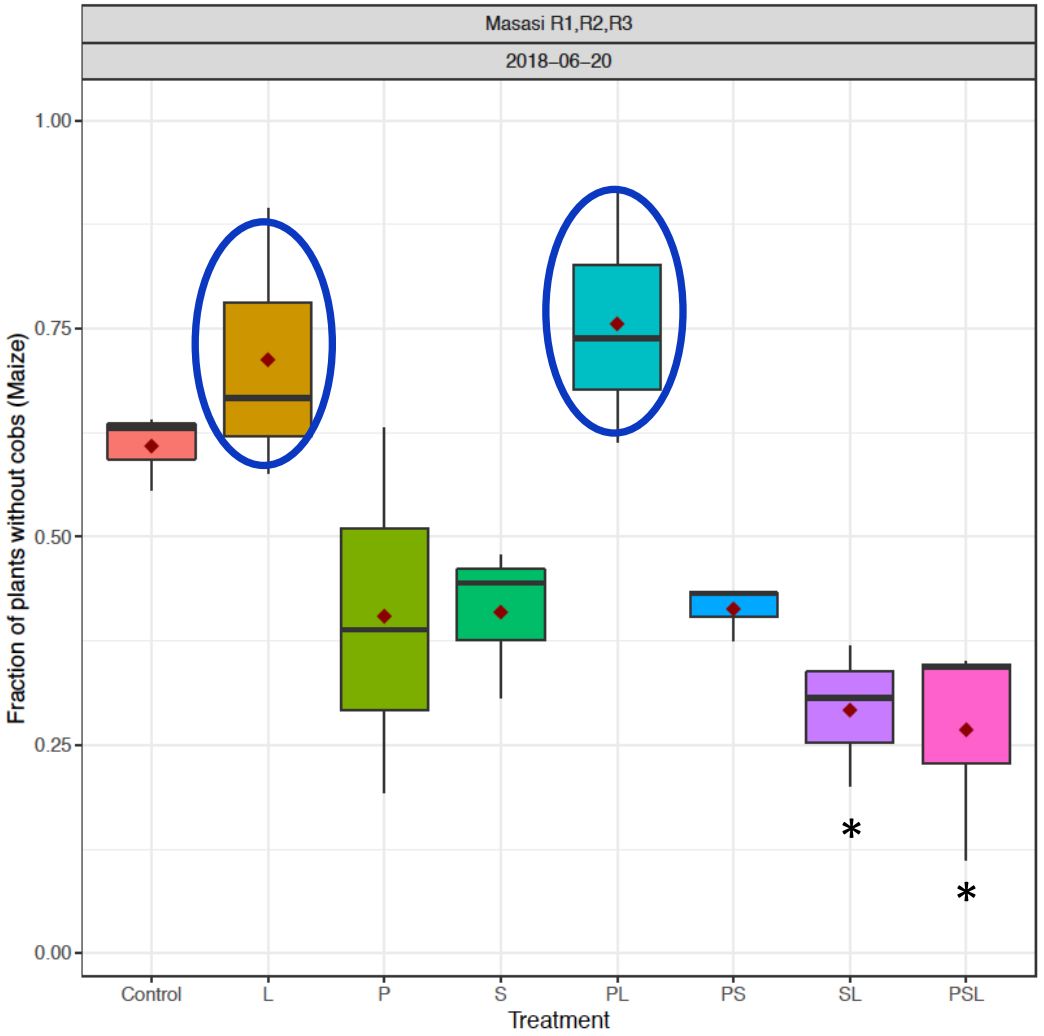
Signif. codes: 0.0005***; 0.001**; 0.01*; 0.05•

Masasi

Weight harvested kernels



Fraction of plants without cob



0.08 = harvested **pulses** in kg/plot

Signif. codes: 0.0005***; 0.001**; 0.01*; 0.05•

ISSUES - Pesticide treatments

Only Masasi staff entered in app. Chambezi did not do any pesticide treatments. Morogoro carried out routine spraying of biopesticides 2x per week.

Masasi carried out pest control on these dates:

4., 10. May
26., 23., 21., 19., 16., 15., 13., 9., 6. April
31., 30., 26., 22., 17., 16., 12., 10. March

19 times!!!

CONCLUSIONS Masasi data

Soil – measures seemed to increase productivity but not so clearly as at other stations (S-alone did not outperform control)

Pest control measures ambivalent, often not performing better than in control

Legumes did not exceed an immediate impact – they in fact had overgrown some plots and negatively affected the maize performance

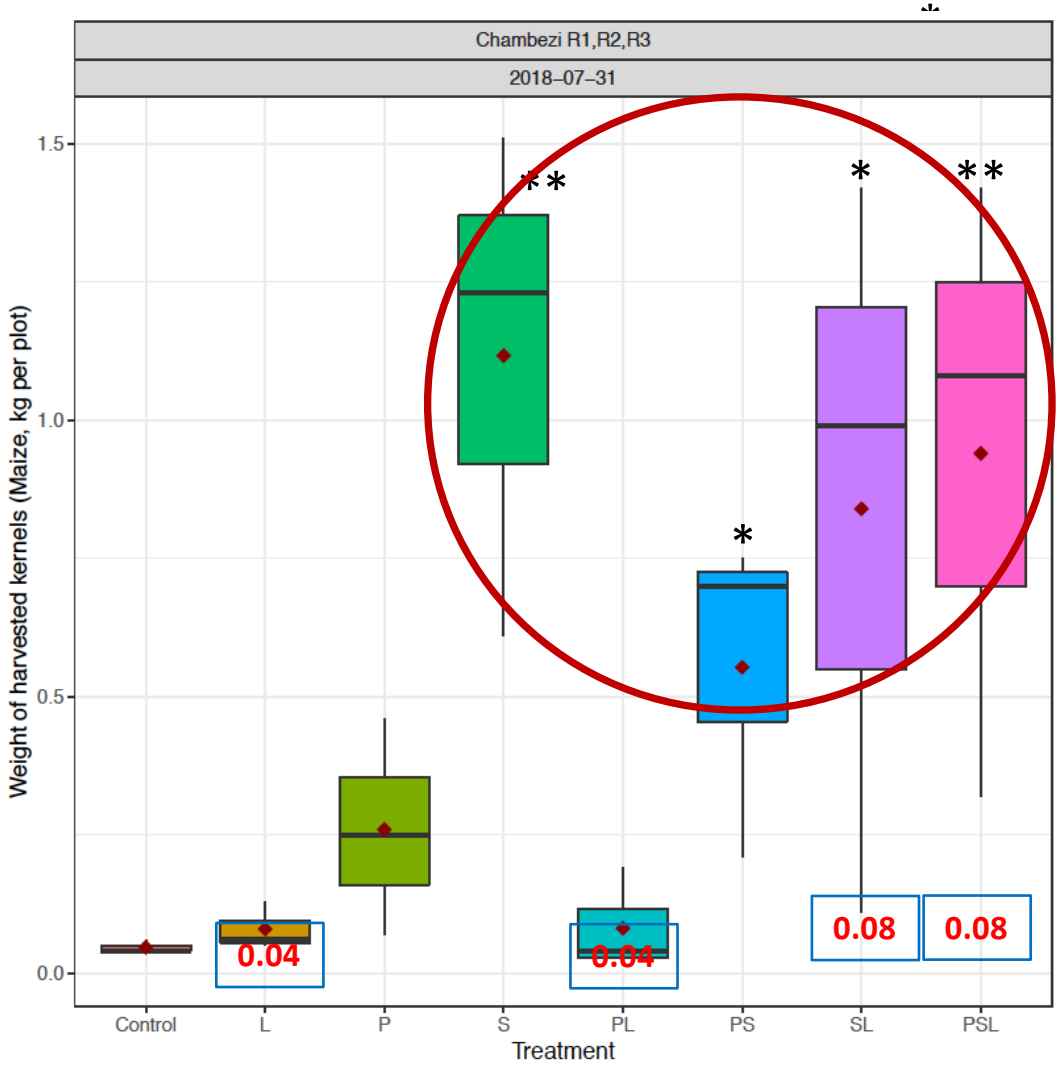
Legume harvest data seems to follow those for maize and delivered a good yield in particular on S-plots

CHAMBEZI

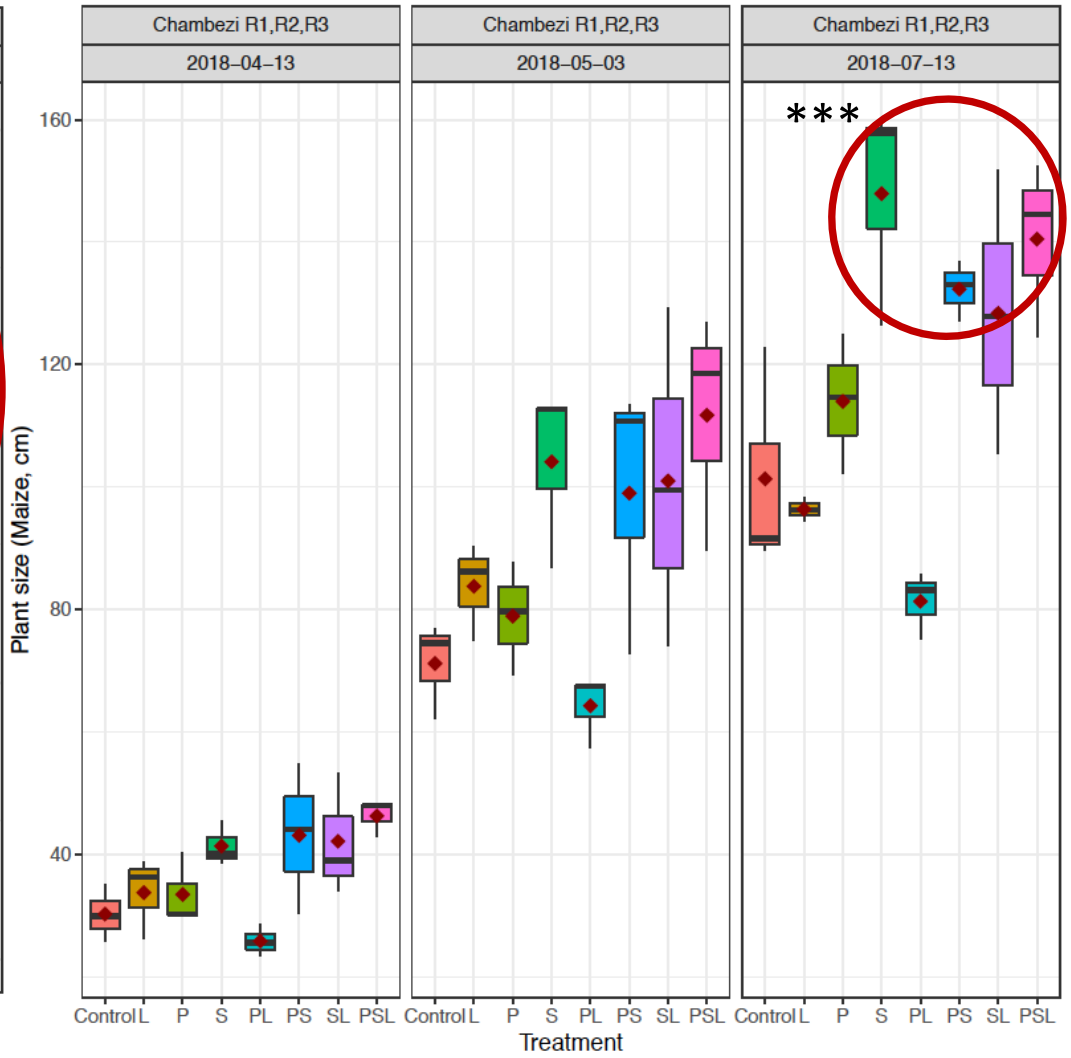
Water-stress condition (floods)

Chambezi (floods)

Weight harvested kernels



Plant Size



0.08 = harvested pulses in kg/plot

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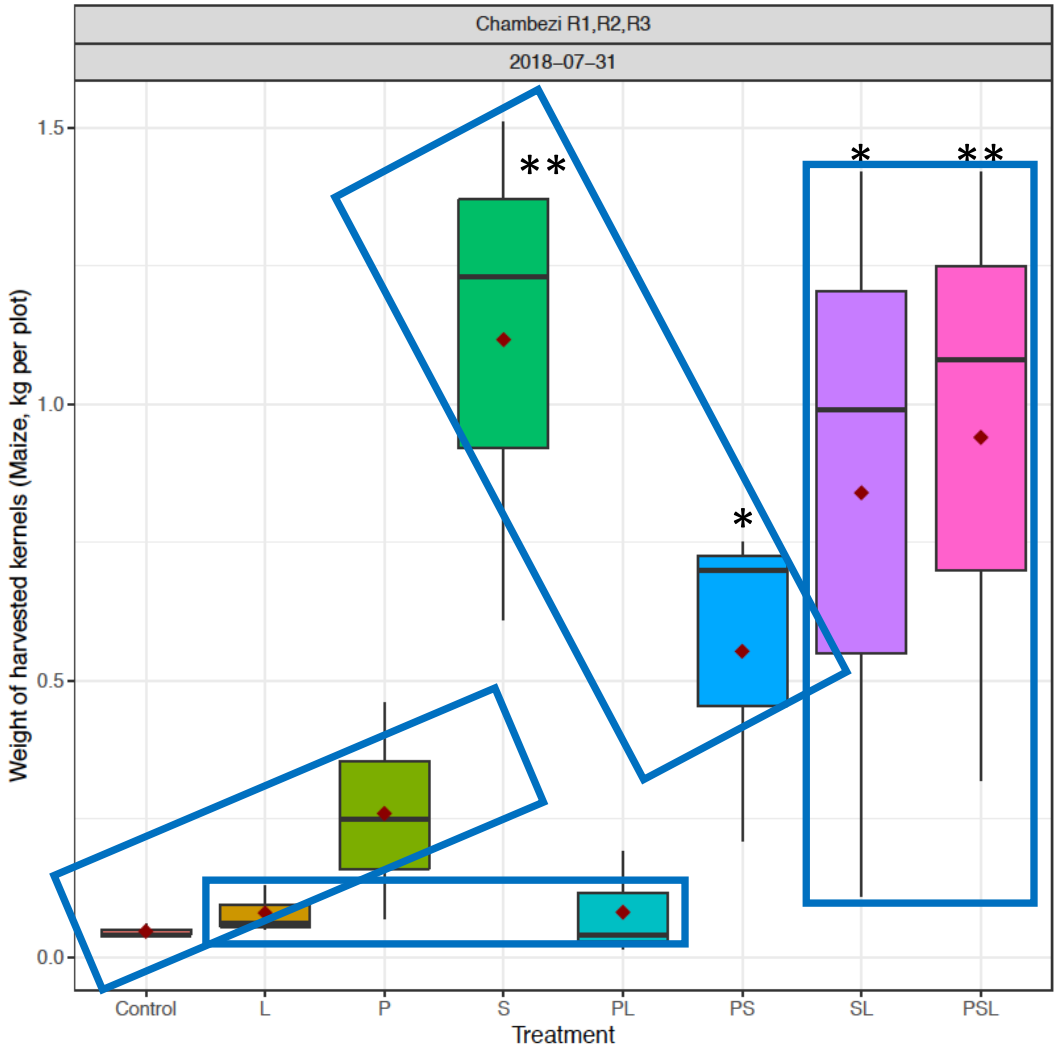
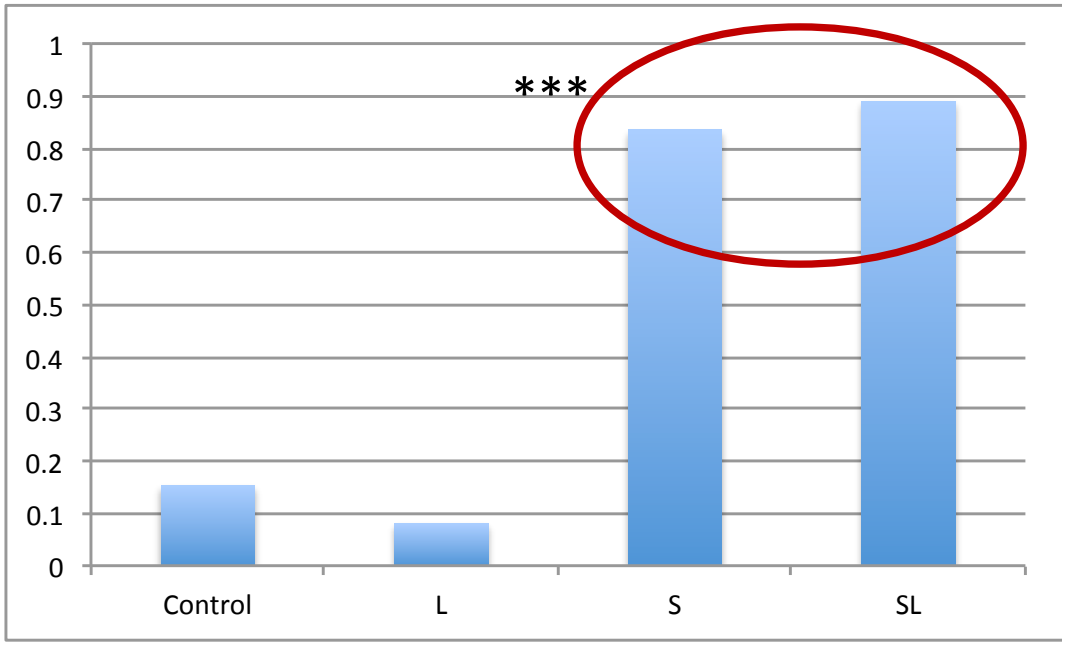
Chambezi – no pesticide treatments

Weight harvested kernels

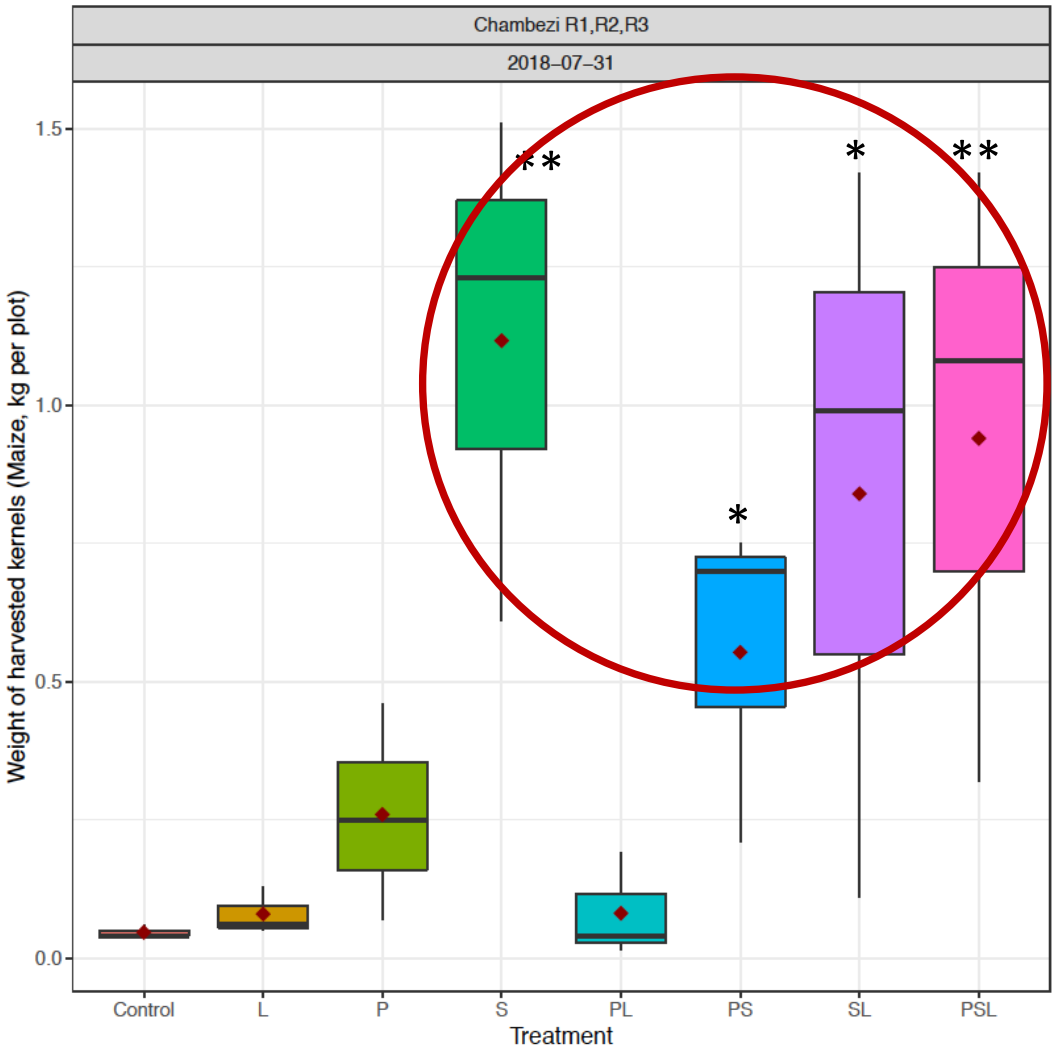




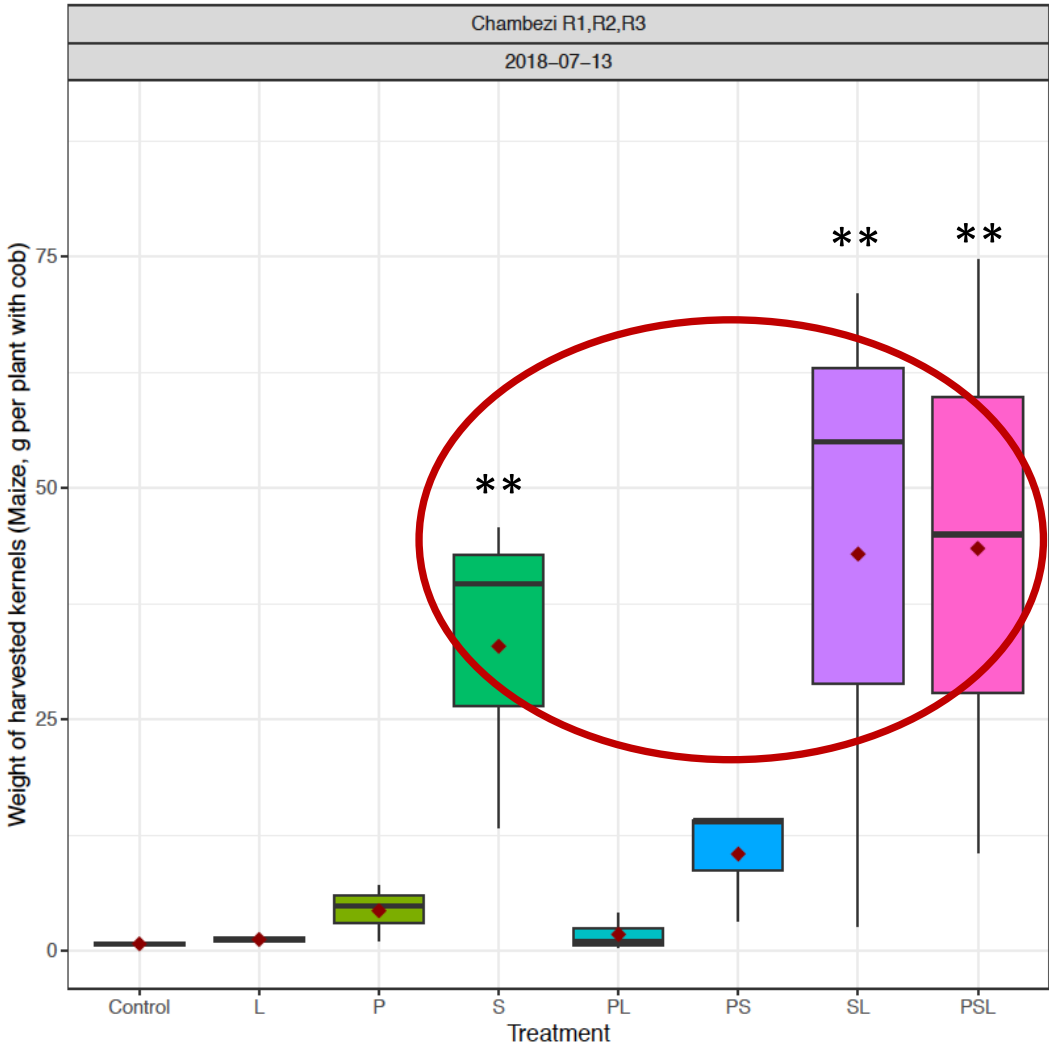
Signif. codes: 0.0005***; 0.001**; 0.01*; 0.05•

Chambezi – no pesticide treatments

Weight of harvested kernels



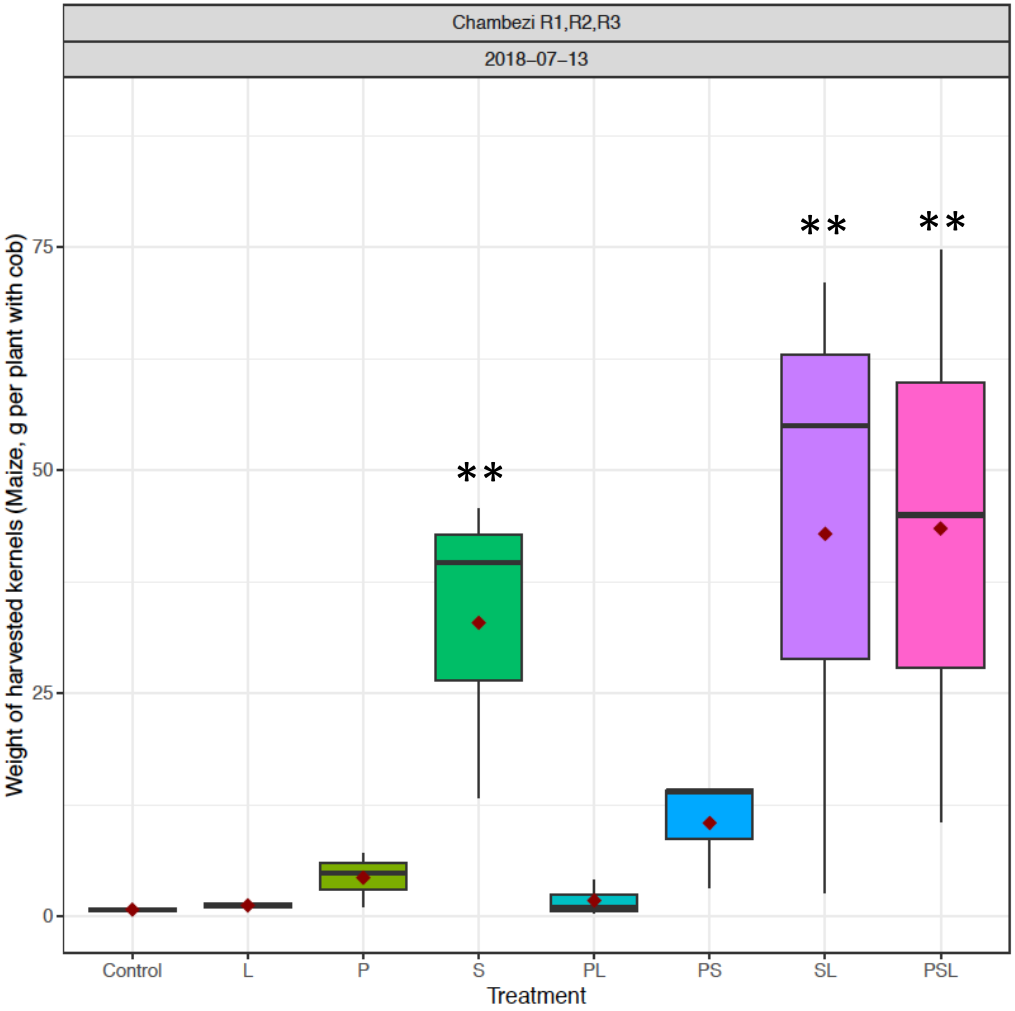
Weight of harvested kernels / plant with cob



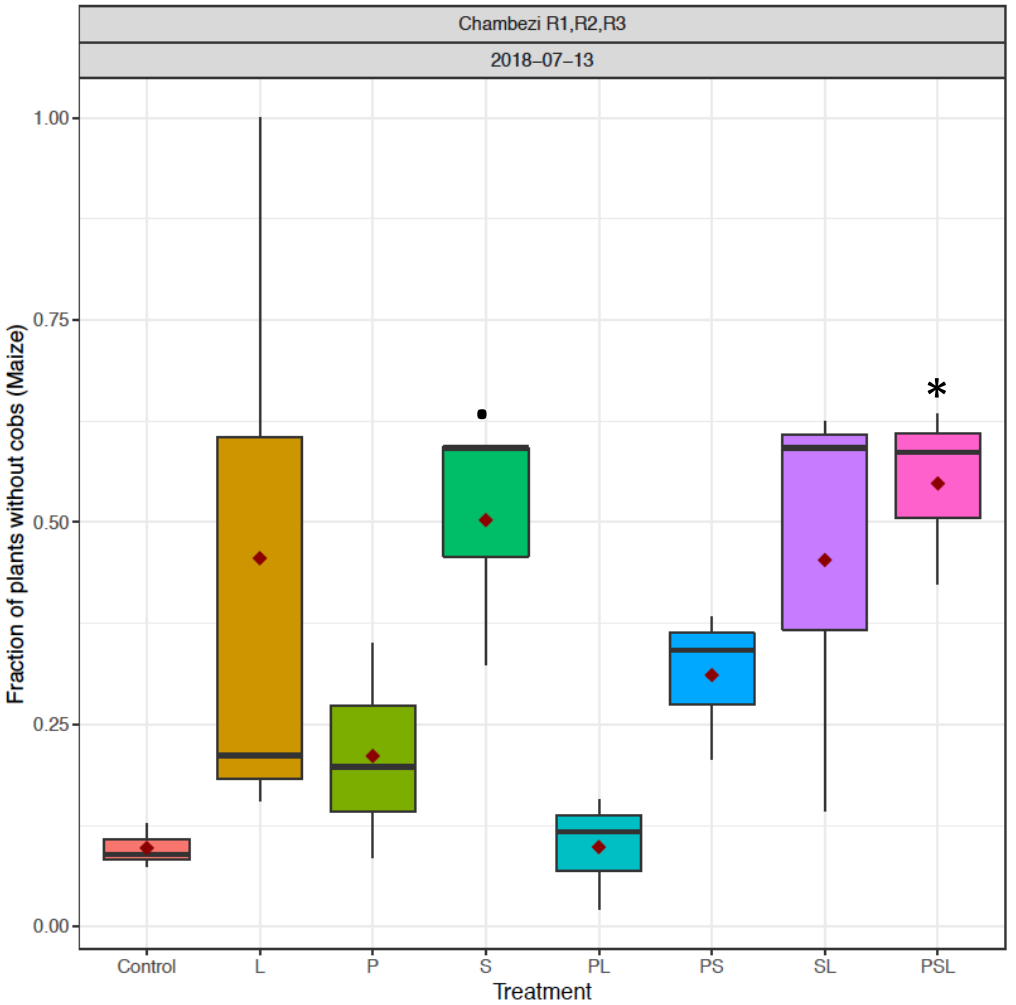
Signif. codes: 0.0005***; 0.001**; 0.01*; 0.05•

Chambezi (under stress)

Weight of harvested kernels / plant with cob



Fraction of plants without cob



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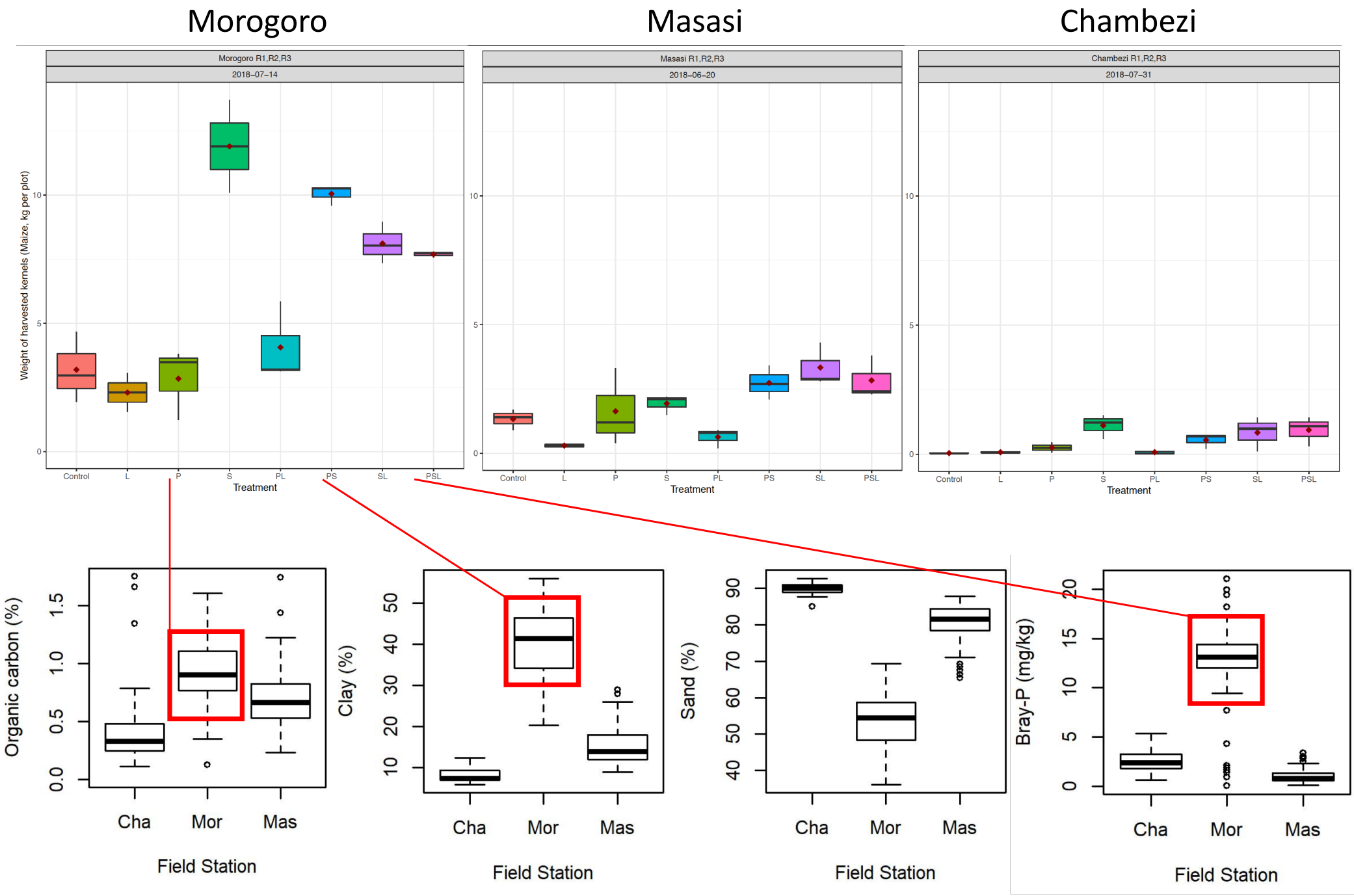
All stations comparison

Harvested maize kernels



Overall Conclusions so far

- **Soil treatments have always the strongest and most immediate effect**
- **Not only increase yield but may protect some yield under severe stress**

- **Pesticide treatments need careful consideration – so far, at best, they don’t harm but are typically not protecting or increasing yield beyond doing nothing (control)**
- **In some occasions, they harm**

What should be monitored

- Plants without cobs
- Record harvest of pulses used for intercropping
- Pesticide treatments appeared excessive and should be kept to a minimum
- Agreement on what kinds of pest control means should be achieved for next season