



Lime Experiment & Soil test response to P inputs

Heavy Soils Programme Farms

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Portlaoise 31st January 2018

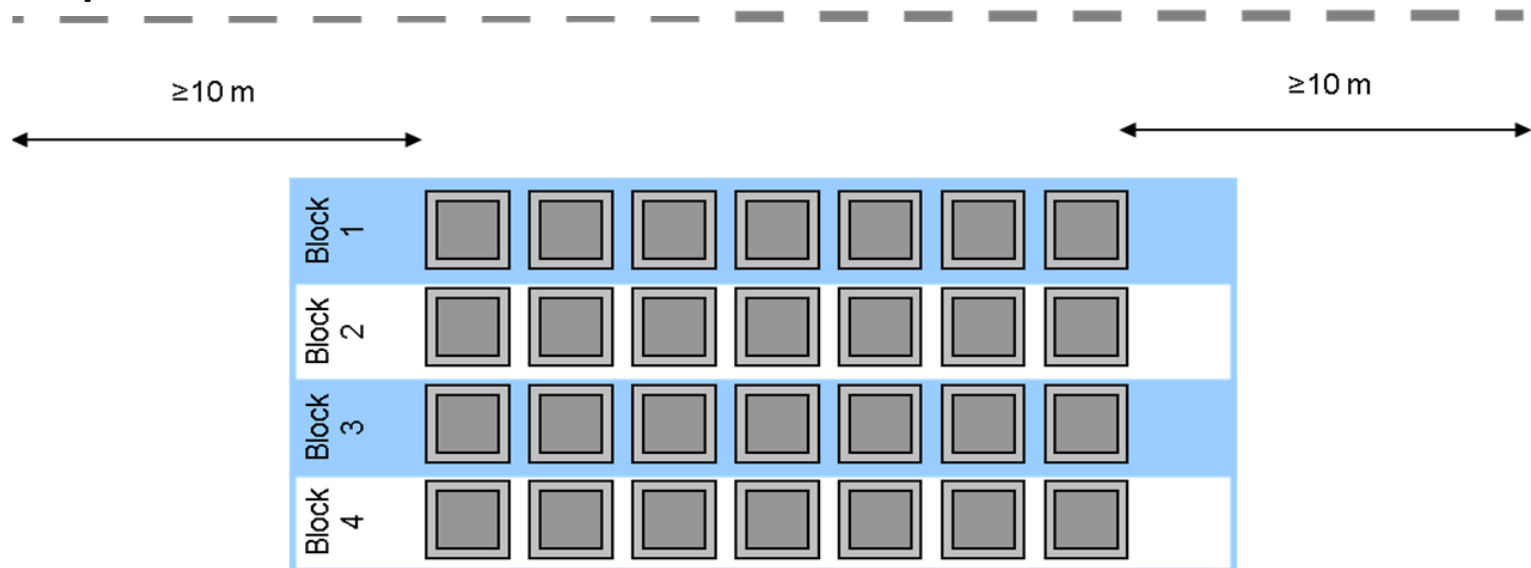


On farm Lime Trials - Experimental design

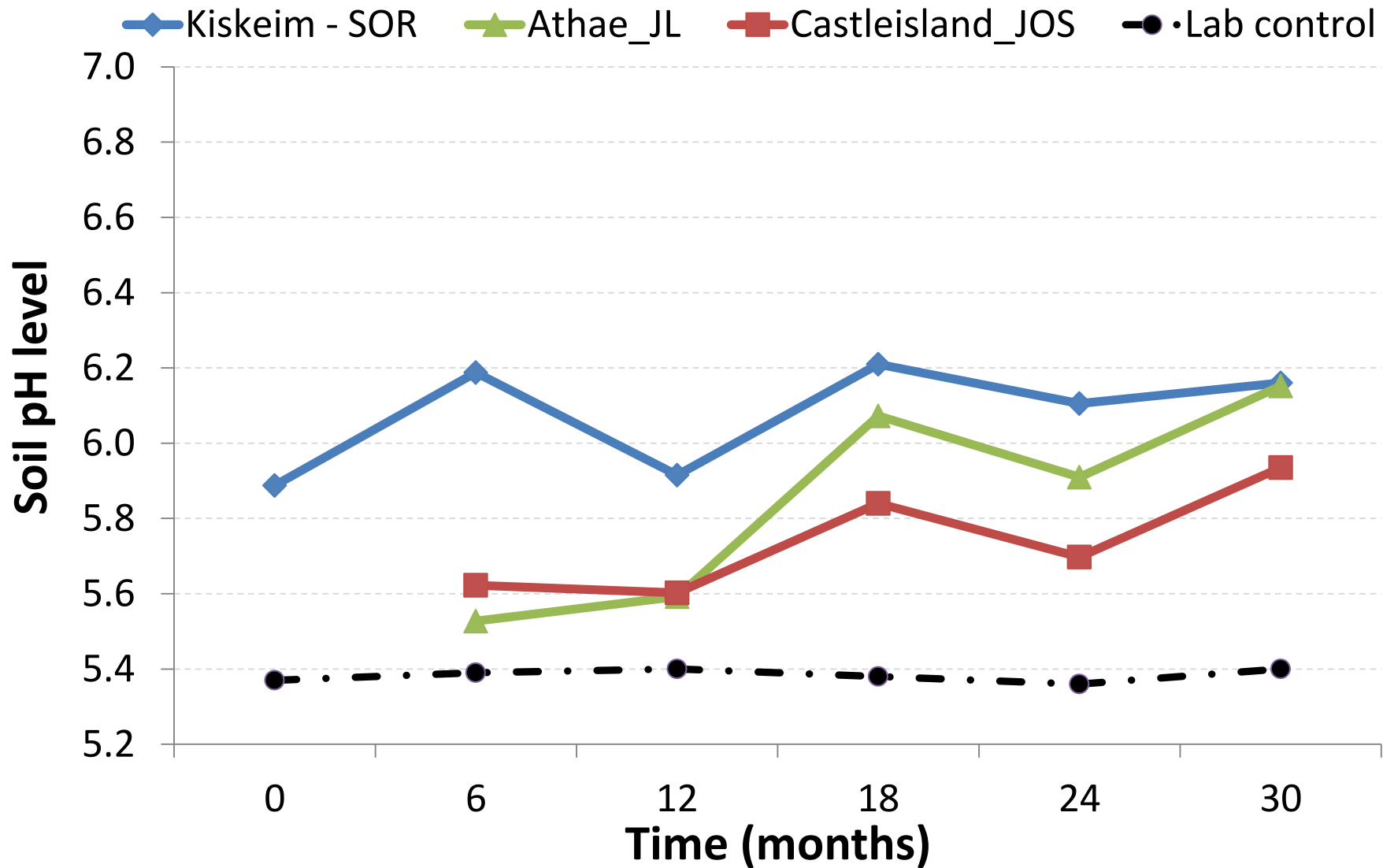
Objective: *To investigate the relative effectiveness of conventional ground limestone and granulated lime in raising soil pH and nutrient availability on heavy soils in high rainfall environments.*

- *7 Treatments in total*
 - *3 x Ground Limestone @ 7.5, 5.0 and 2.5 t/ha*
 - *3 x Granulated Lime @ 1:1 (7.5 t/ha) , 1:3 (2.5 t/ha) and 1:5 (1.5 t/ha)*
 - *1 x Control (no lime applied)*
- *Soil samples take every 6 months after liming to measure pH & nutrients*

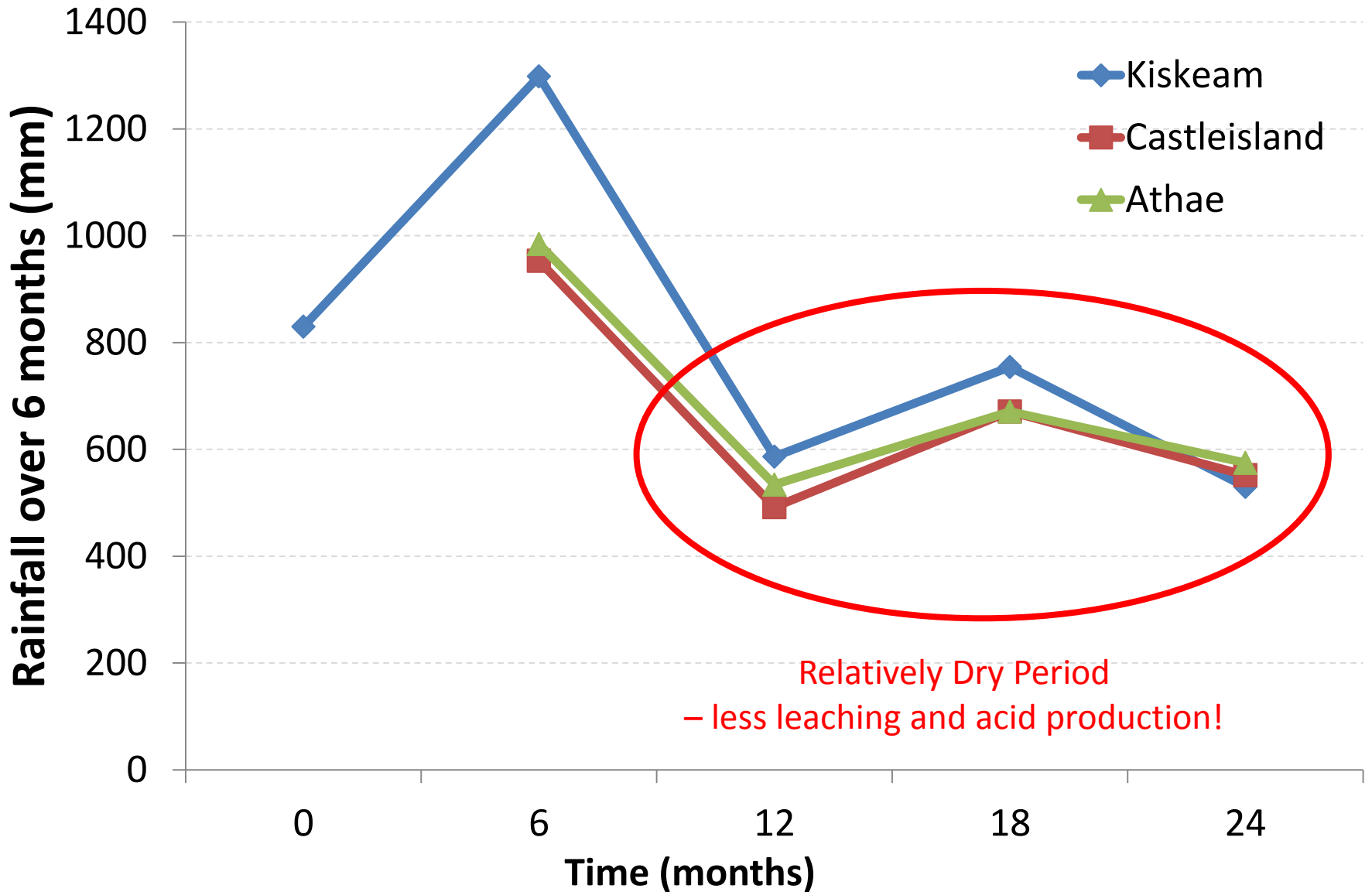
Layout of plots in the field



Background soil pH levels (controls)

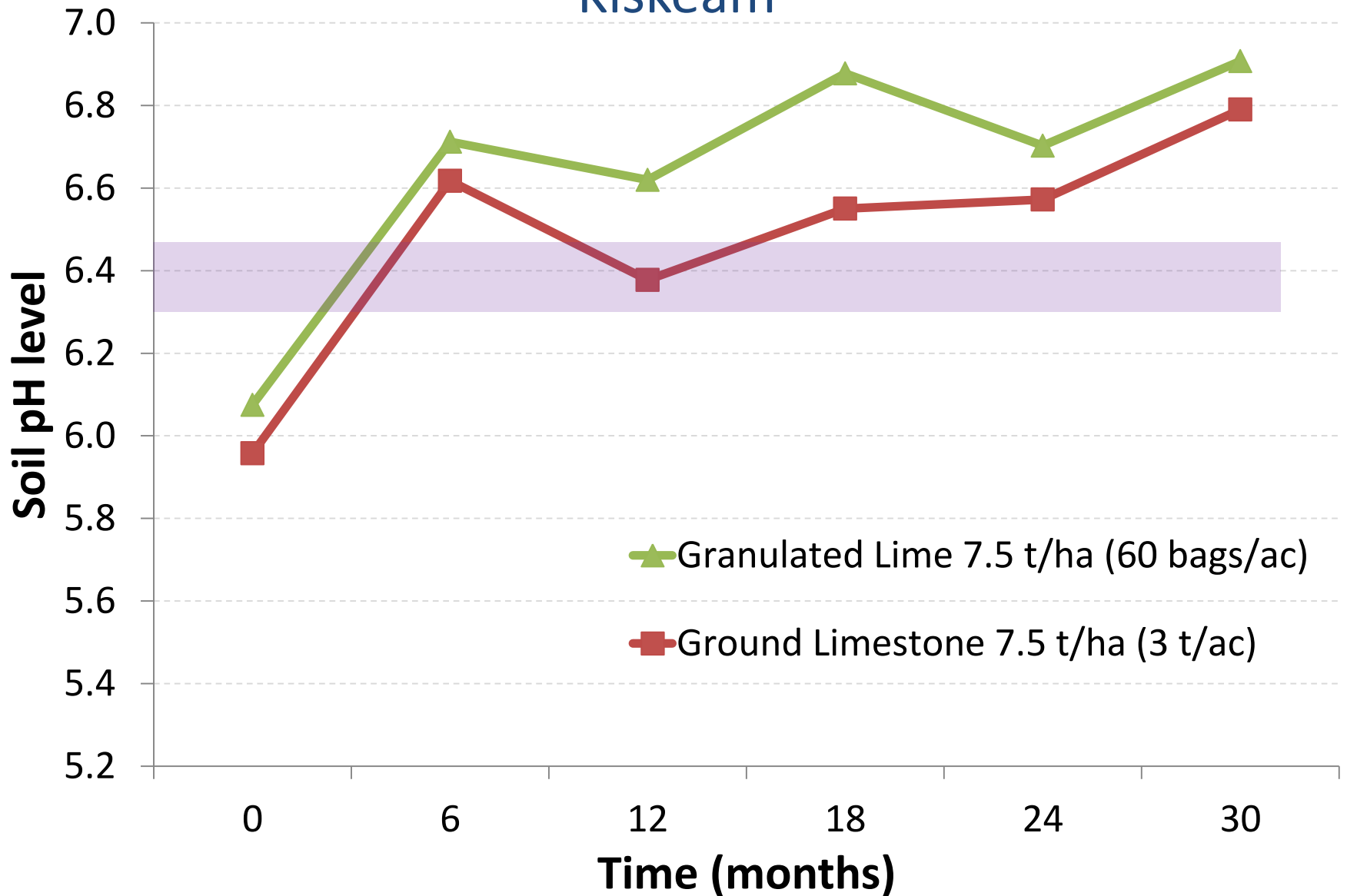


Rainfall Quantities (over 6 months)

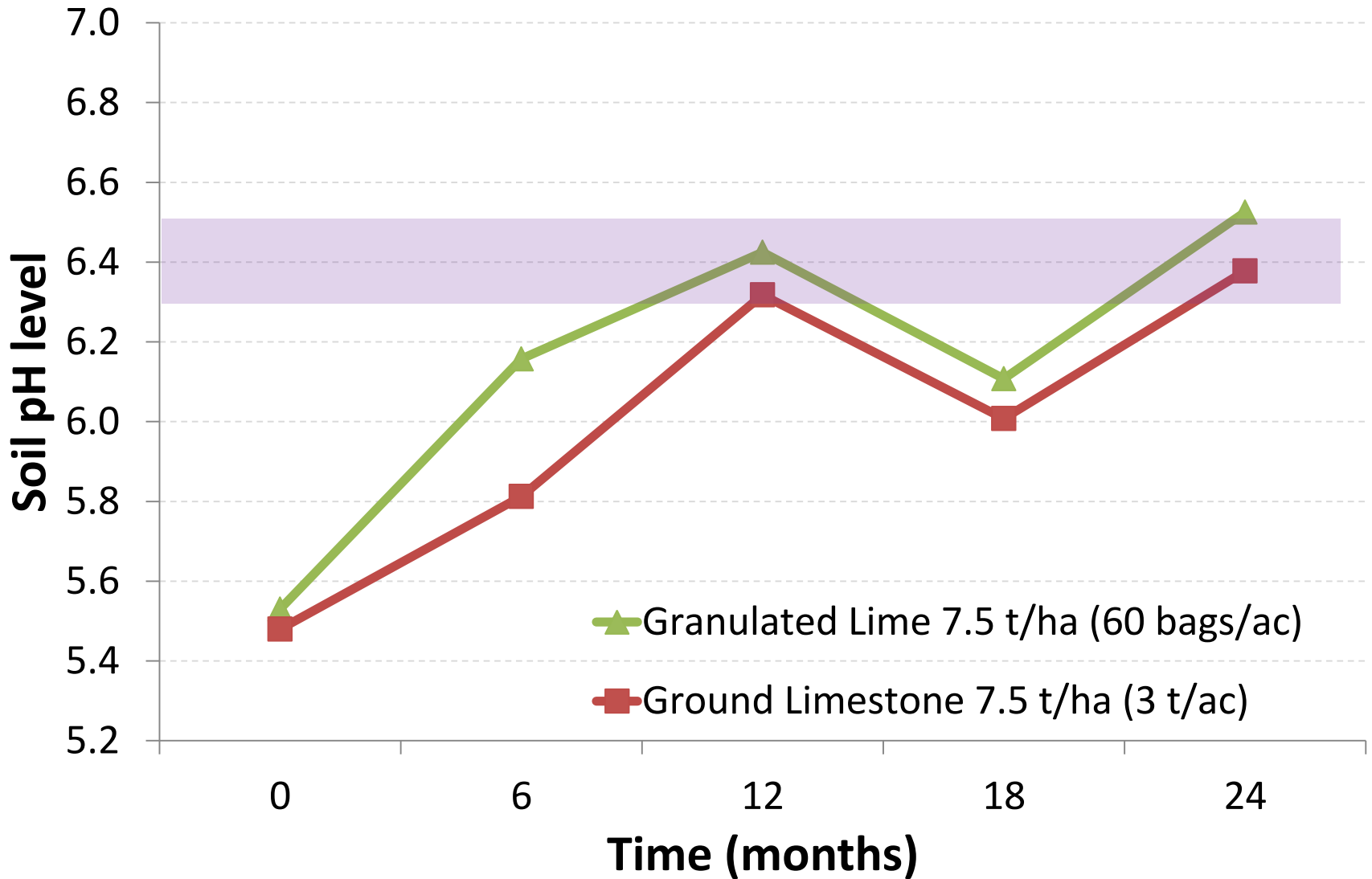


Soil pH change (Full Rate Lime)

Kiskeam

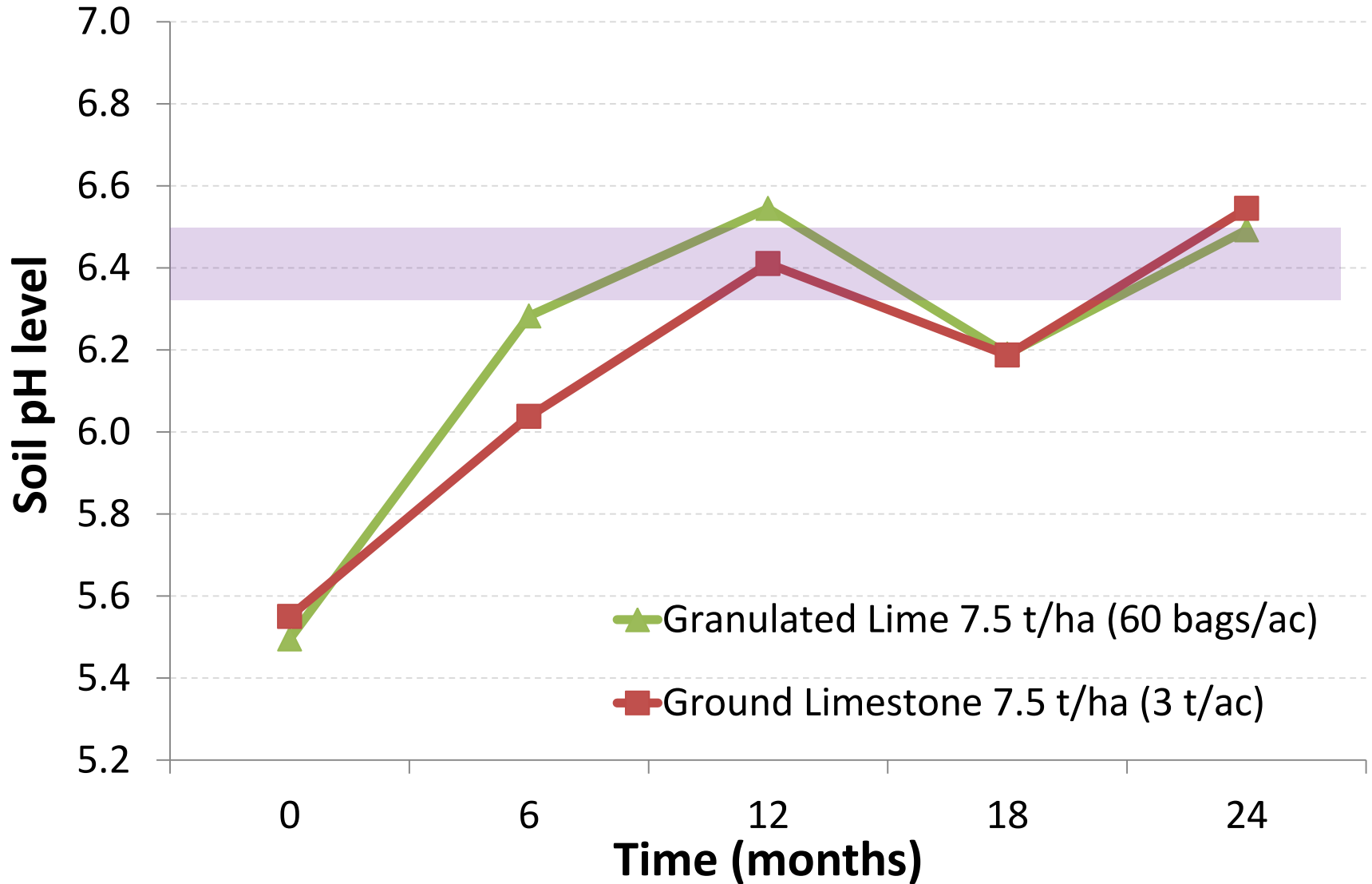


Soil pH change (Full Rate Lime) Castleisland



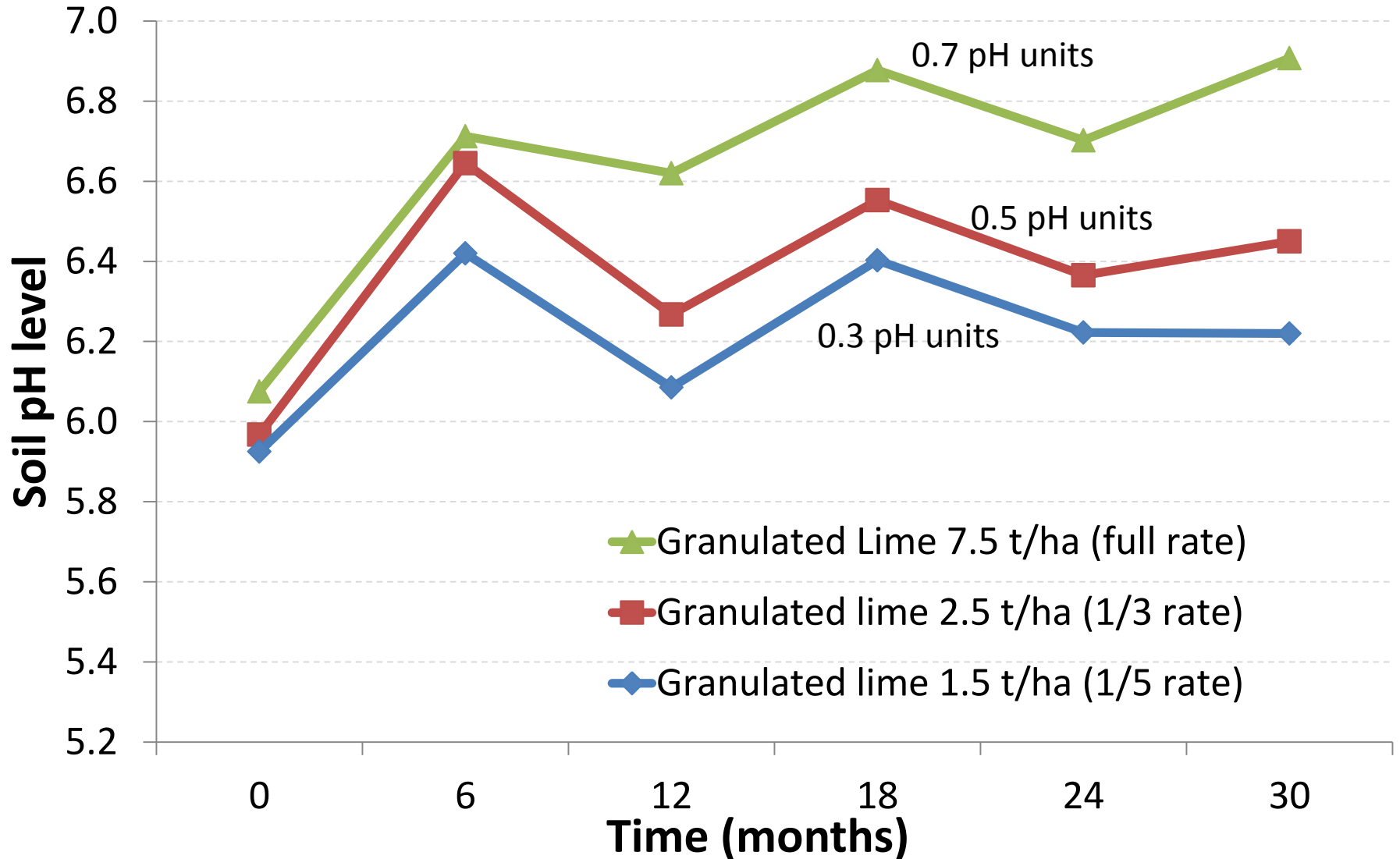
Soil pH change (Full Rate Lime)

Athea

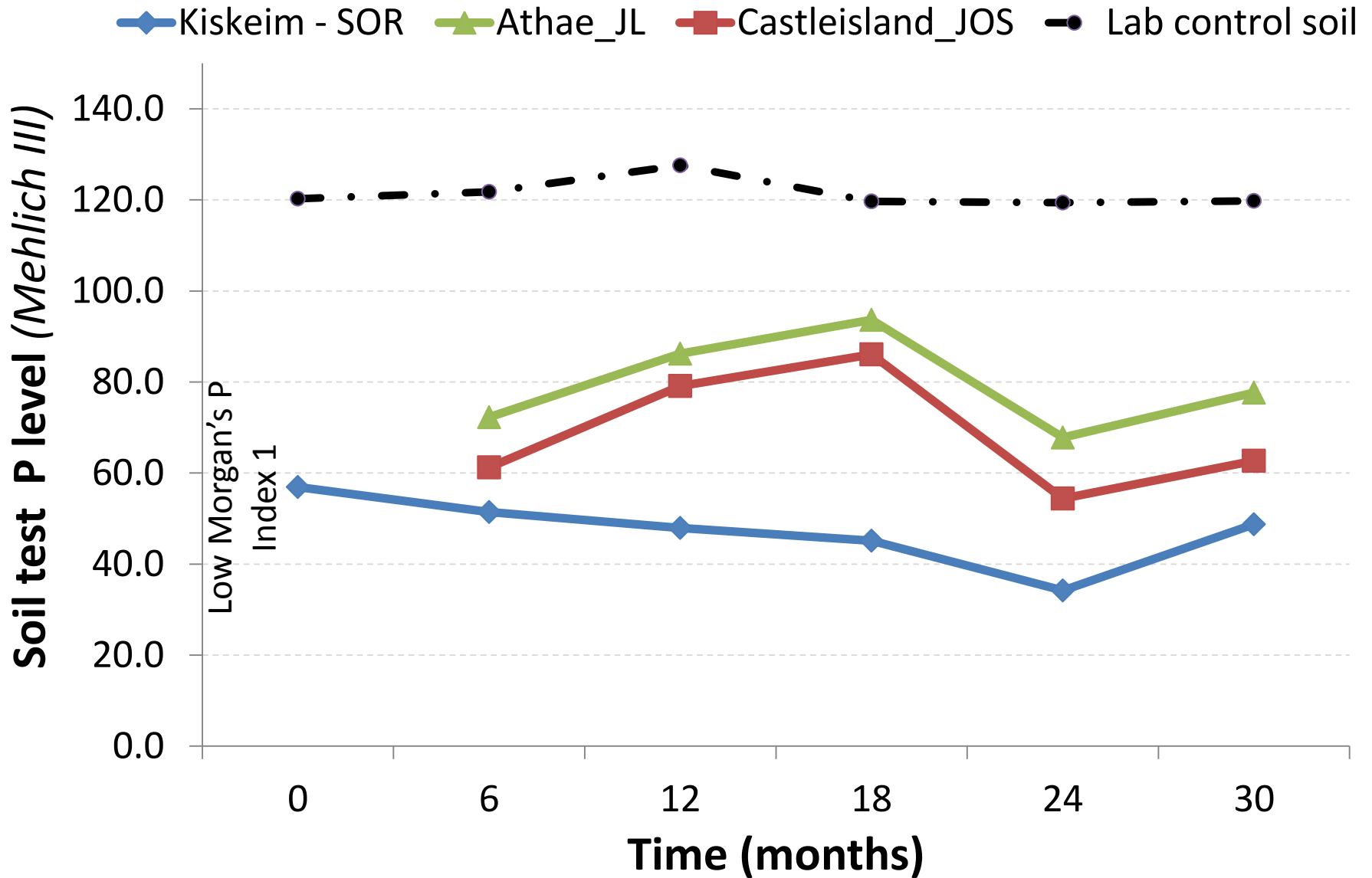


Response to Granulated lime Rate

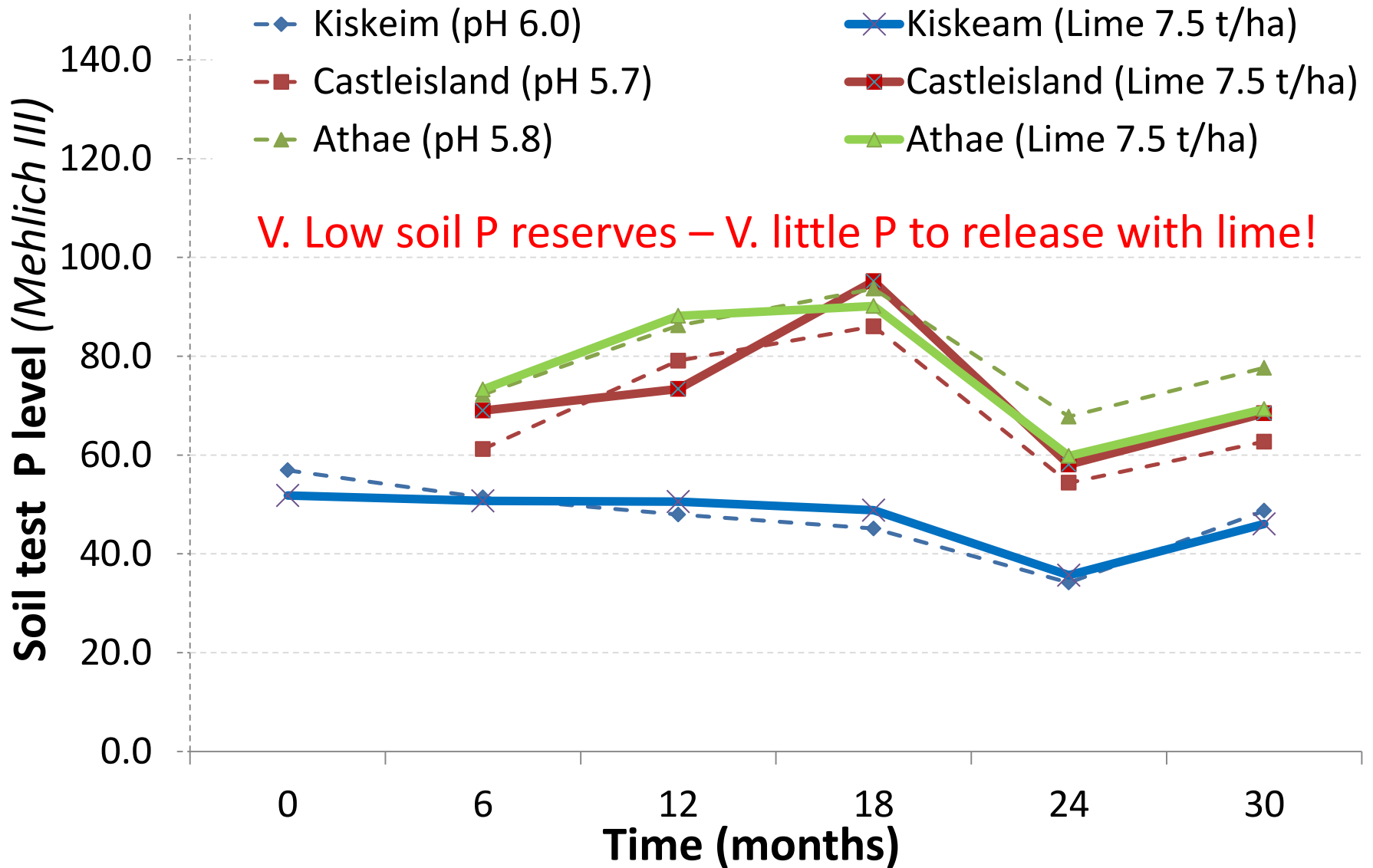
Average response is 0.25 pH Units per tonne lime applied



Background soil test P levels (controls)

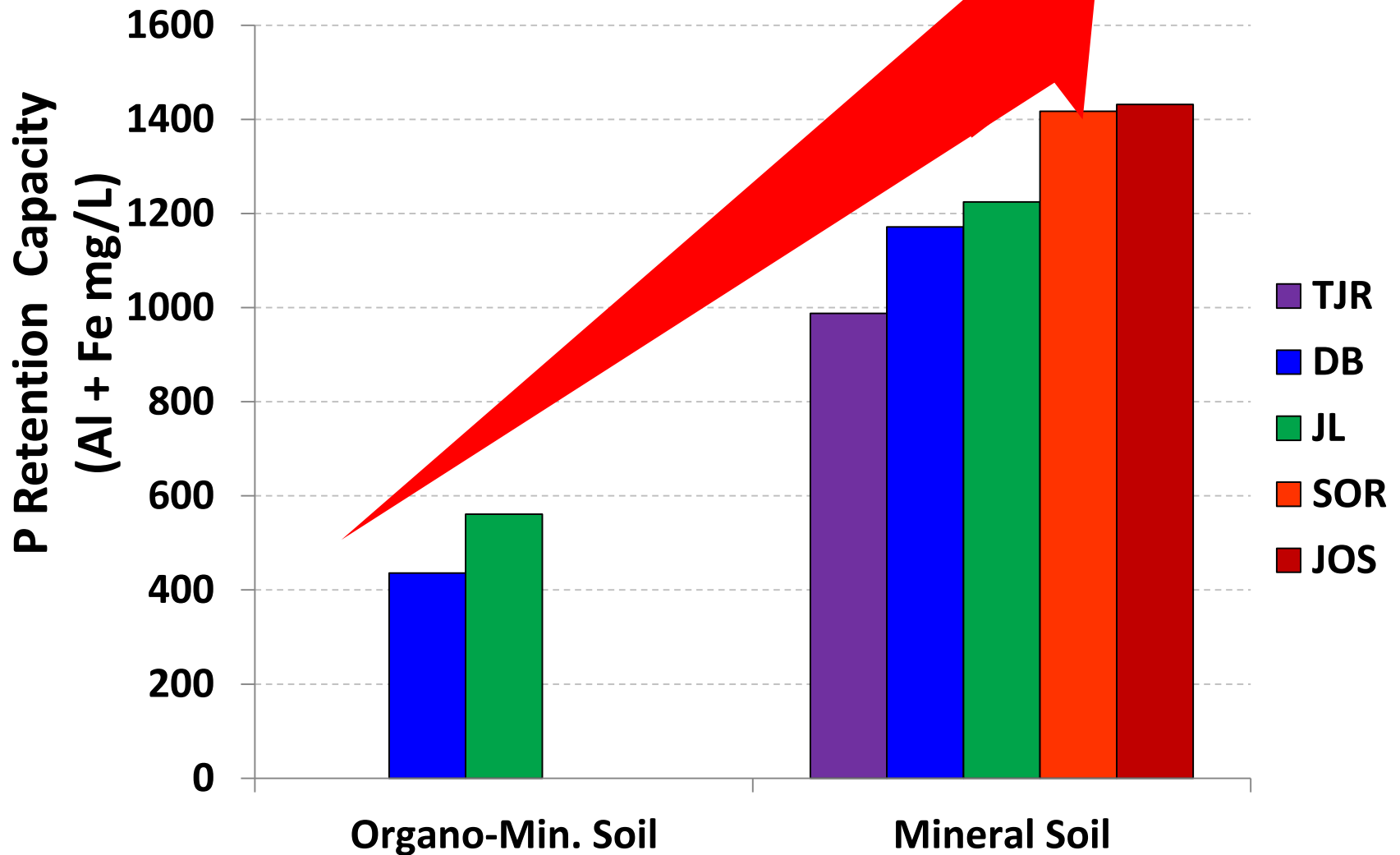


Change in soil test P levels

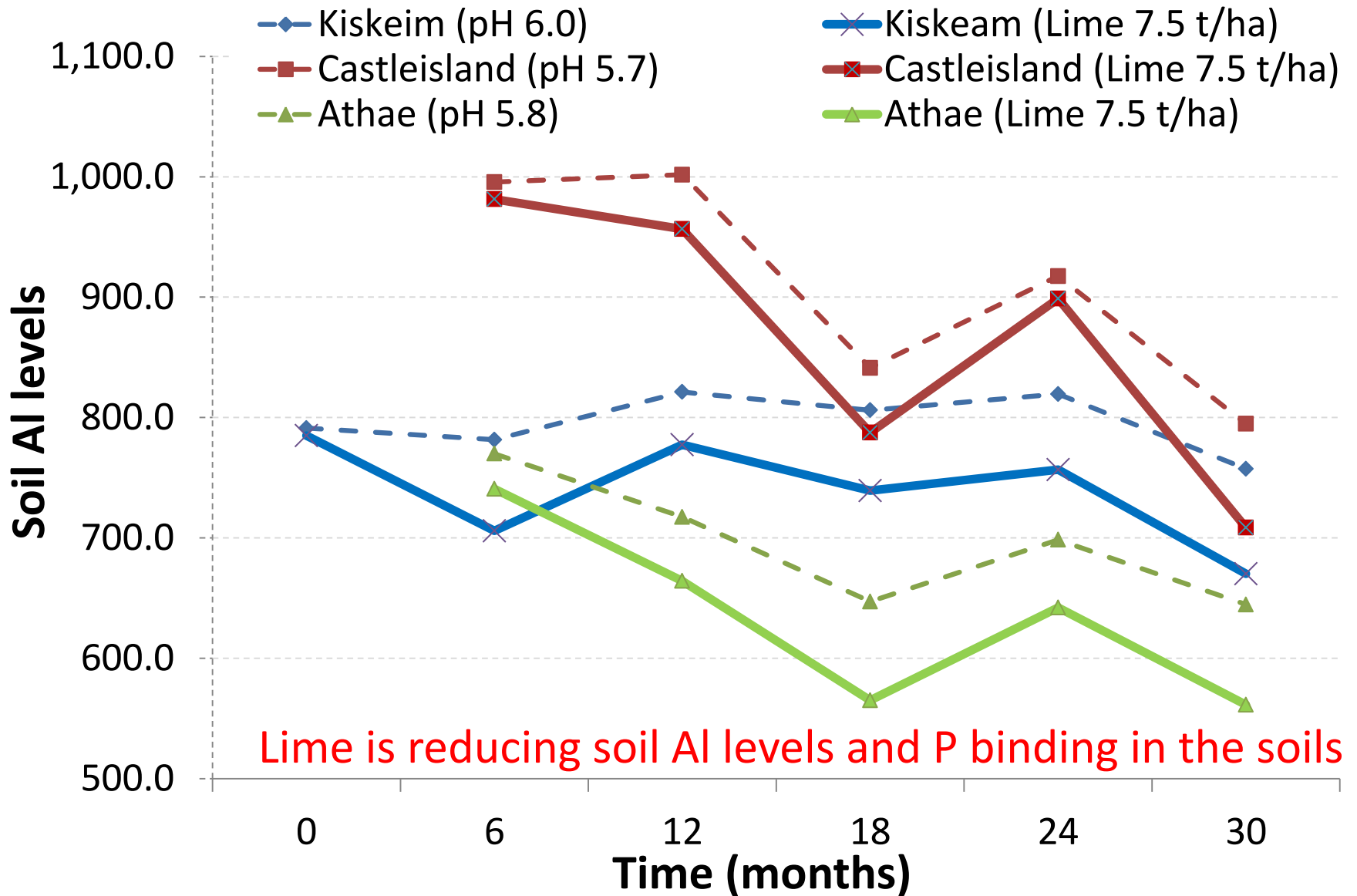


Relative Soil P Retention Capacity

(Soil P fixation Capacity)



Change in soil Aluminium levels



Lime is reducing soil Al levels and P binding in the soils