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TASMANIAN INSTITUTE
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Bothwell group soil results + Ratho & Bendeveiron trials

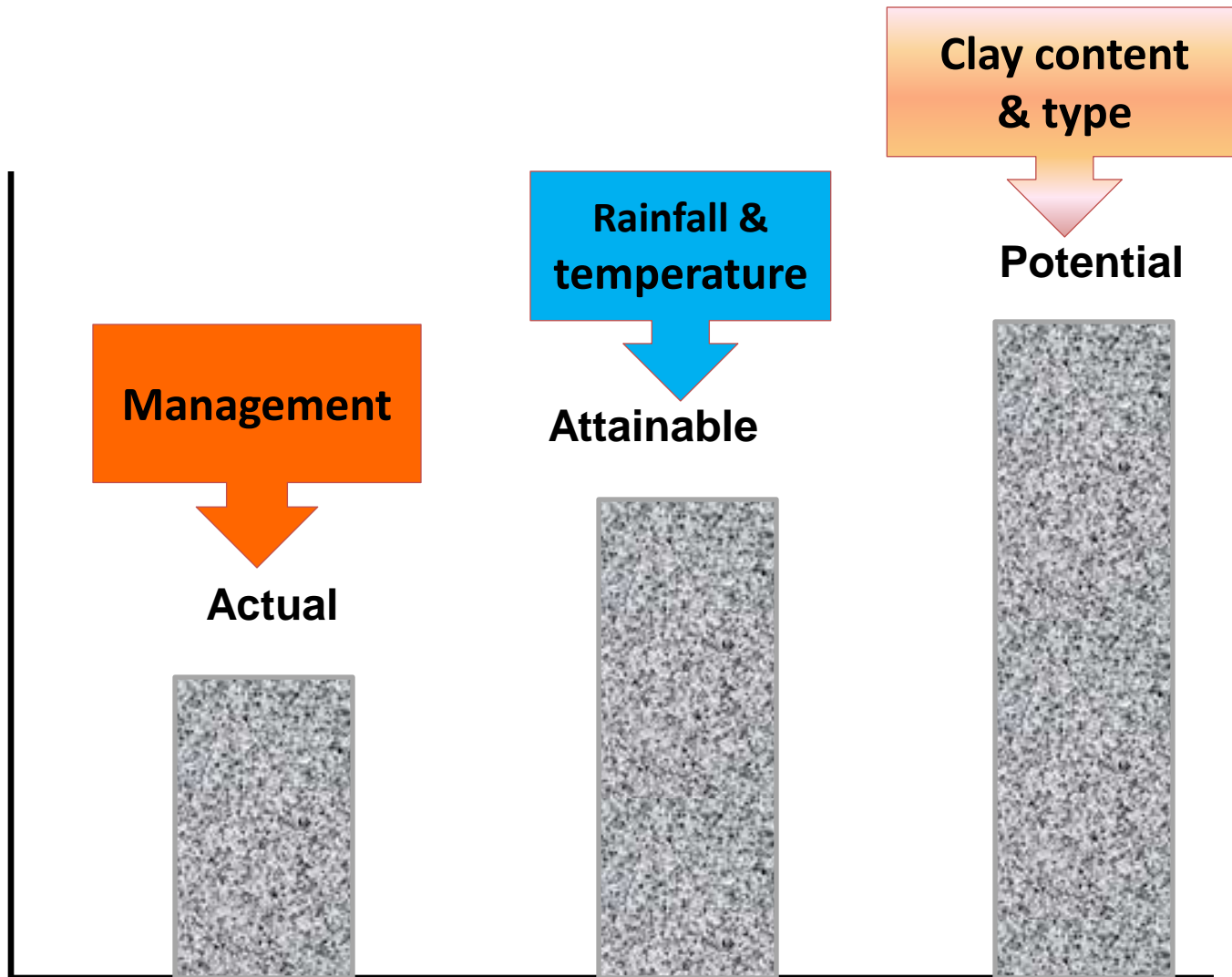
Bill Cotching



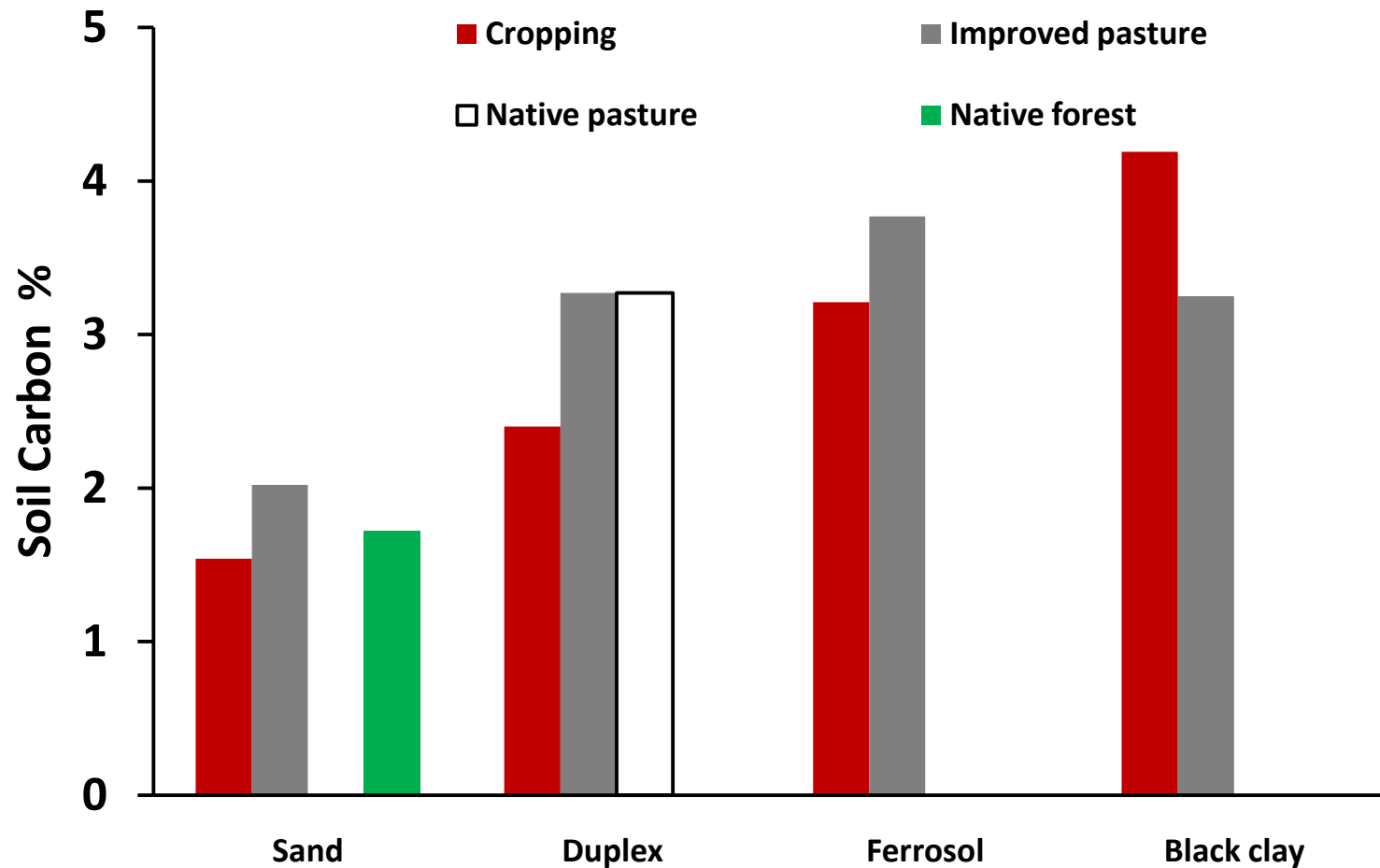
TIA is a joint venture of the University of Tasmania and the Tasmanian Government

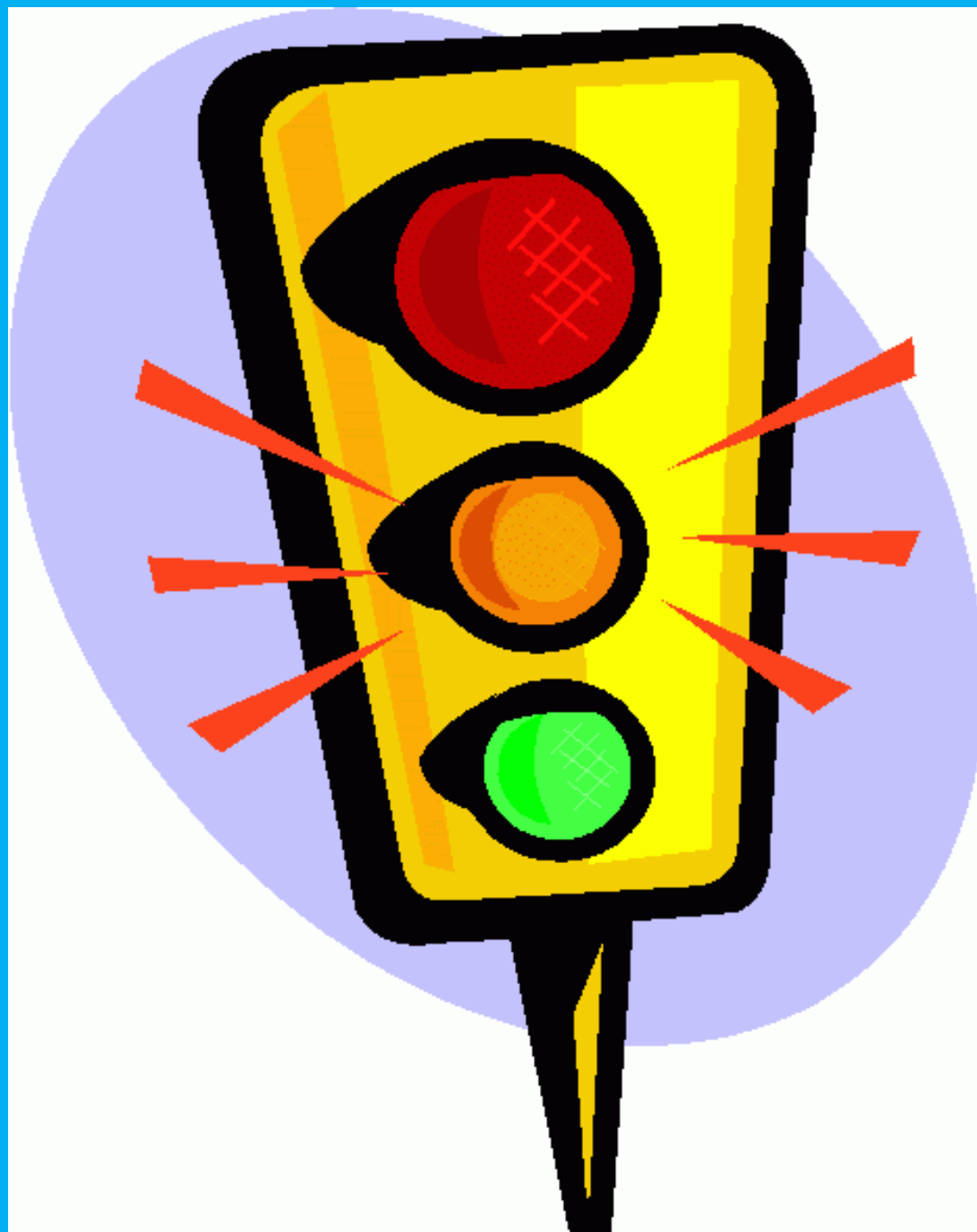


Soil organic carbon

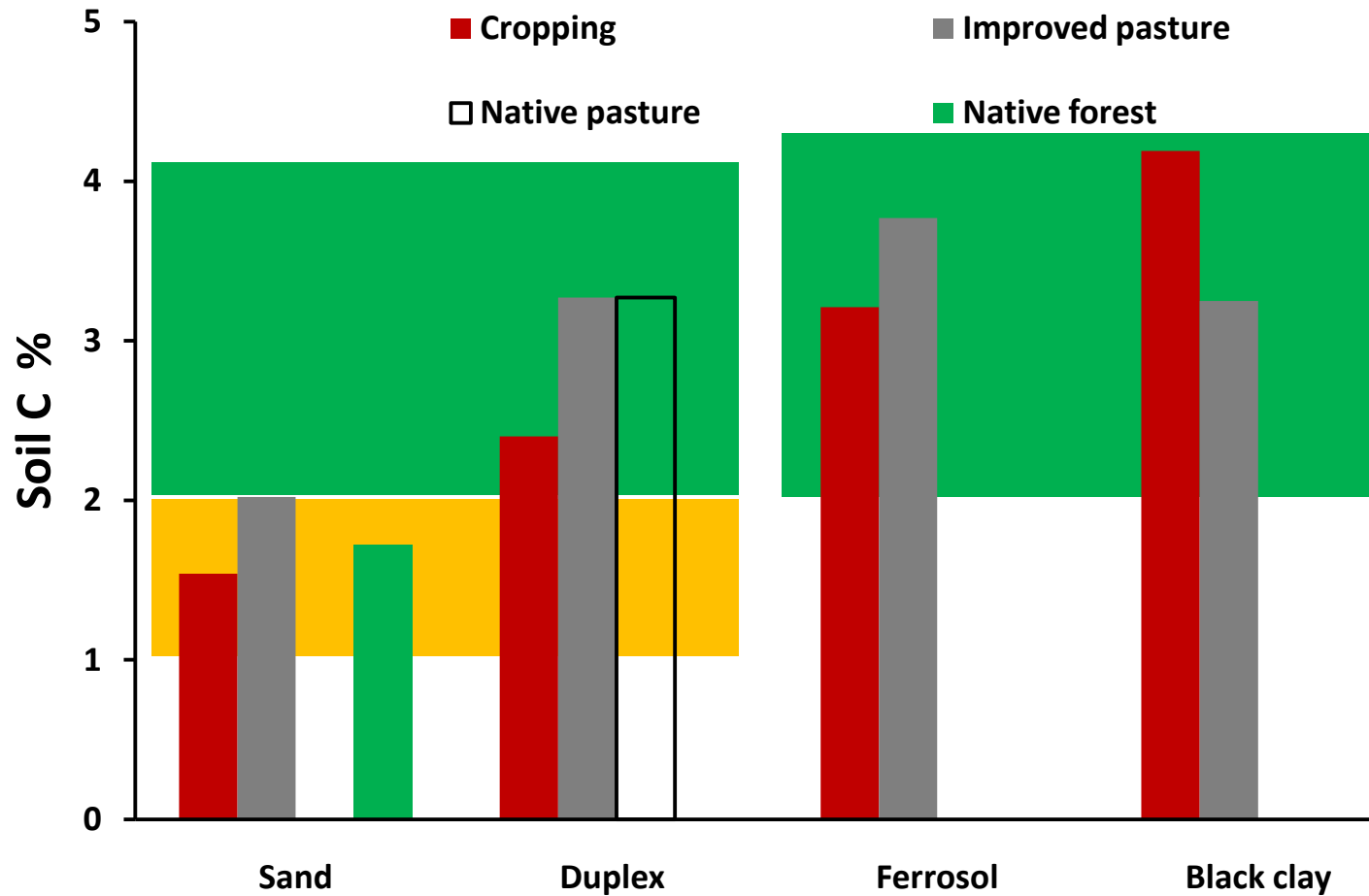


Bothwell soil carbon 0 – 20 cm depth

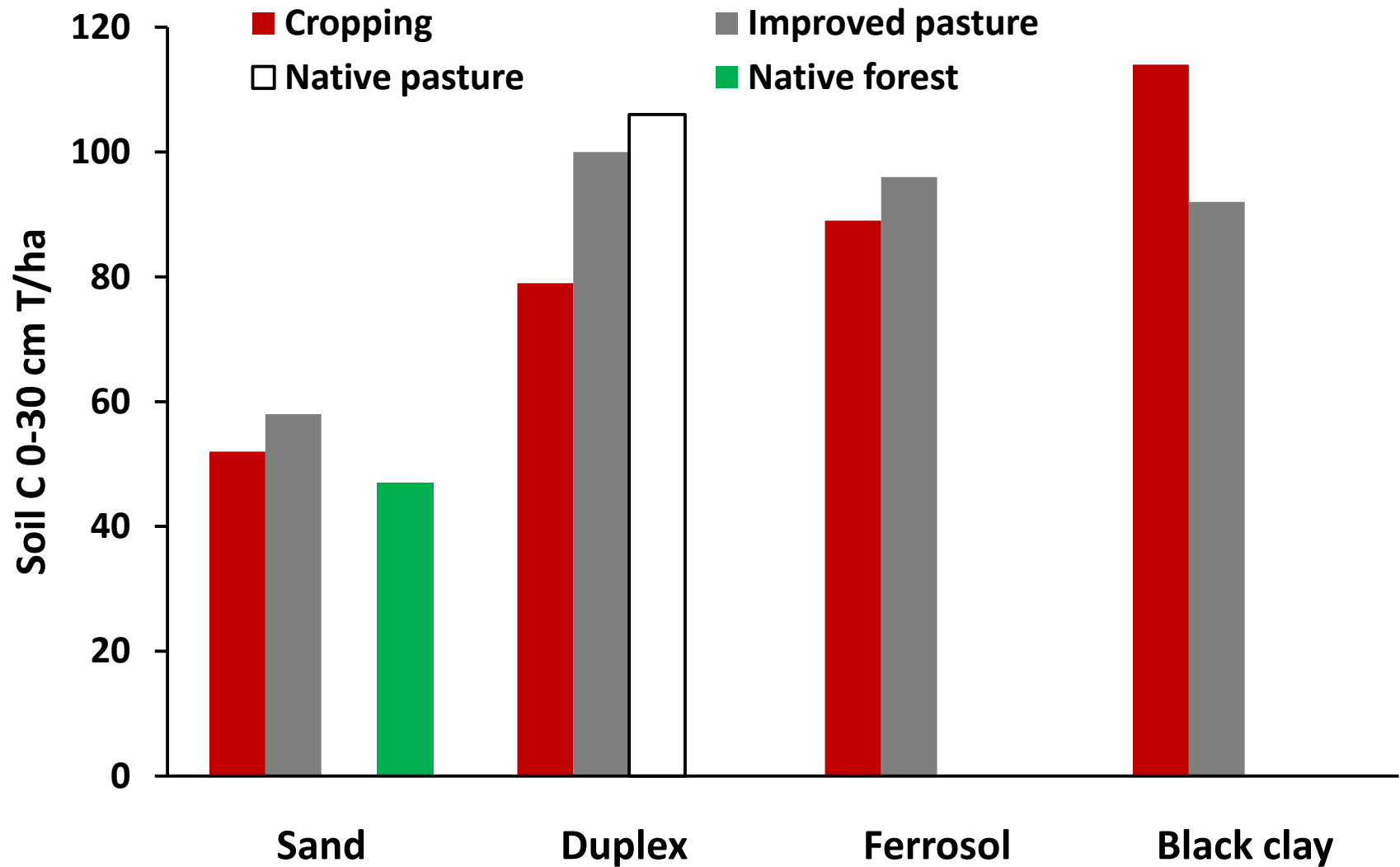




Bothwell soil carbon 0 – 20 cm depth



Carbon stocks in Bothwell soils 0 – 30 cm

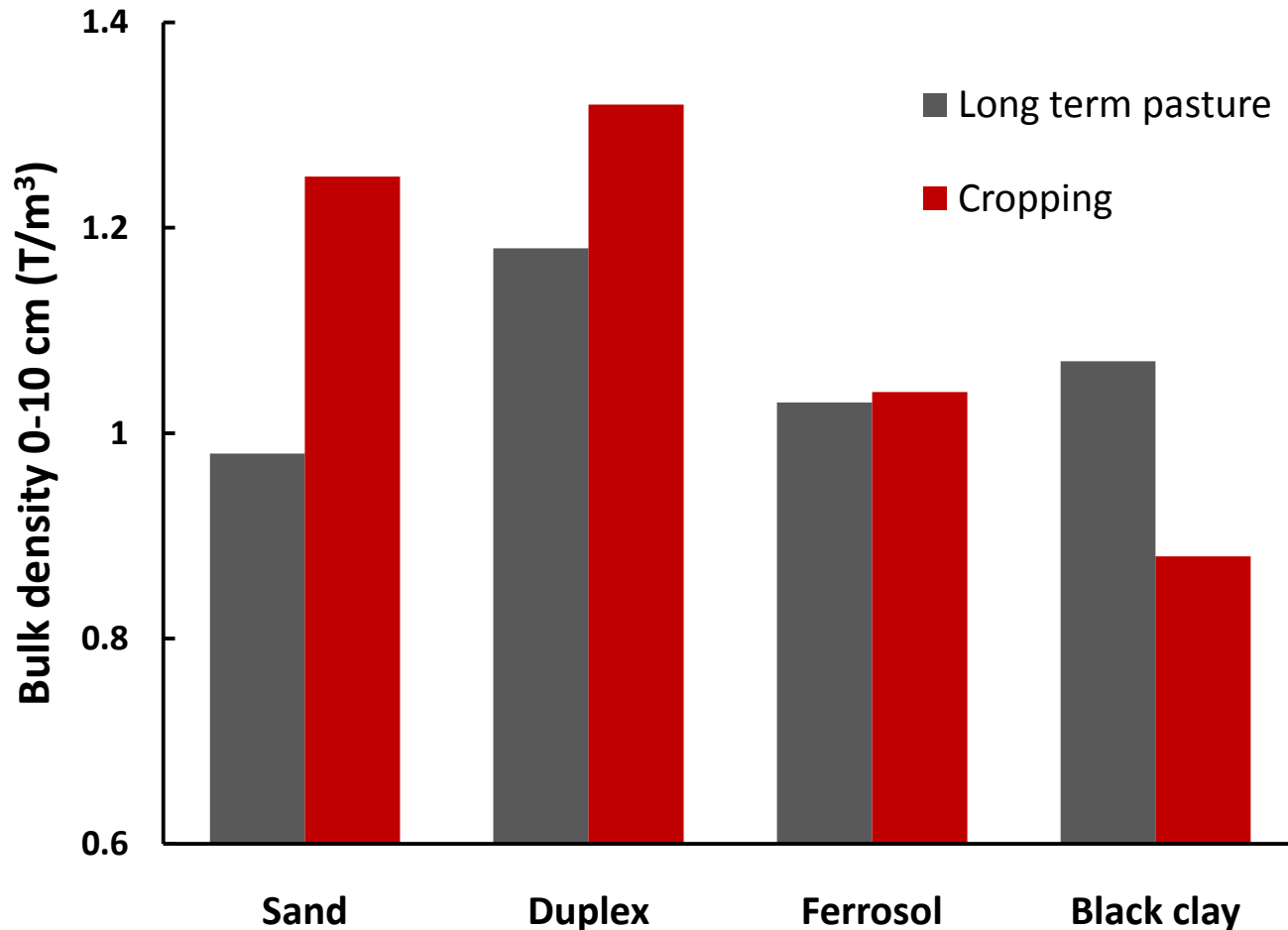


Carbon stocks - **Bothwell (in red)** v's Tasmania

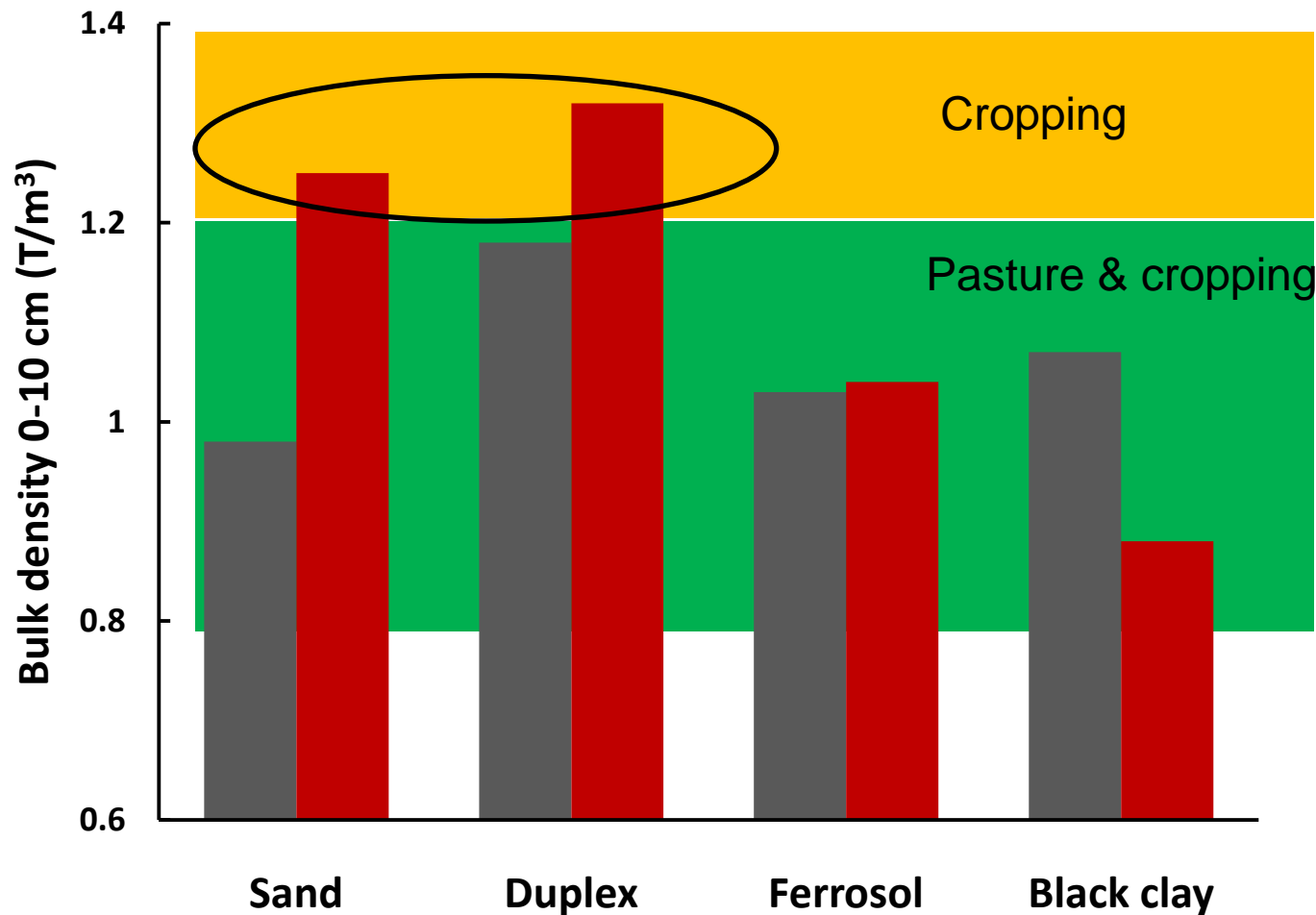
Tonnes Carbon /ha 0-30 cm depth

Soil order	Dryland pasture	Intensive cropping
Sand	79 (58)	54 (52)
Duplex	126 (100)	60 (79)
Ferrosol	158 (96)	115 (89)
Black clay	112 (92)	93 (114)

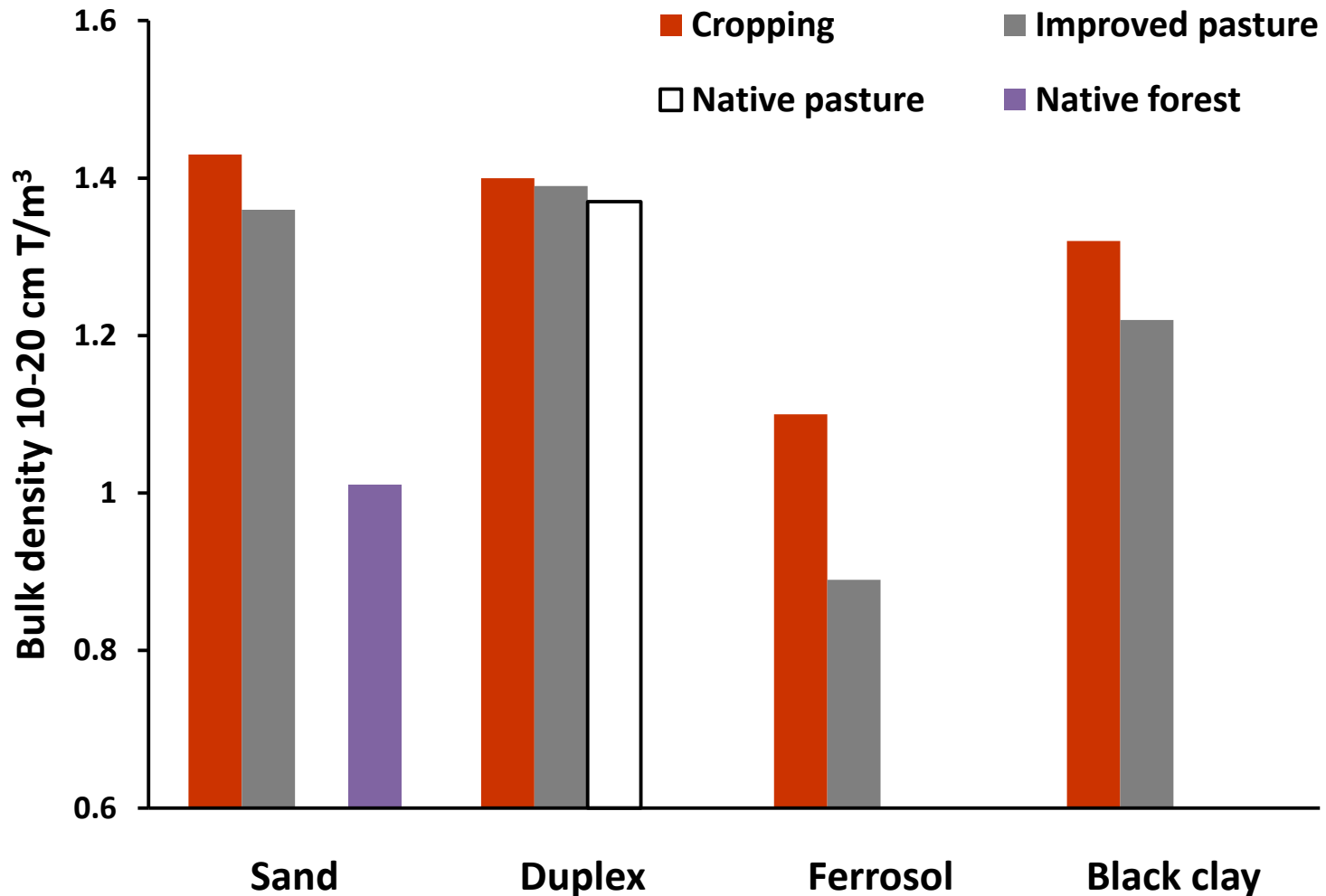
Bothwell bulk density 0 – 10 cm depth



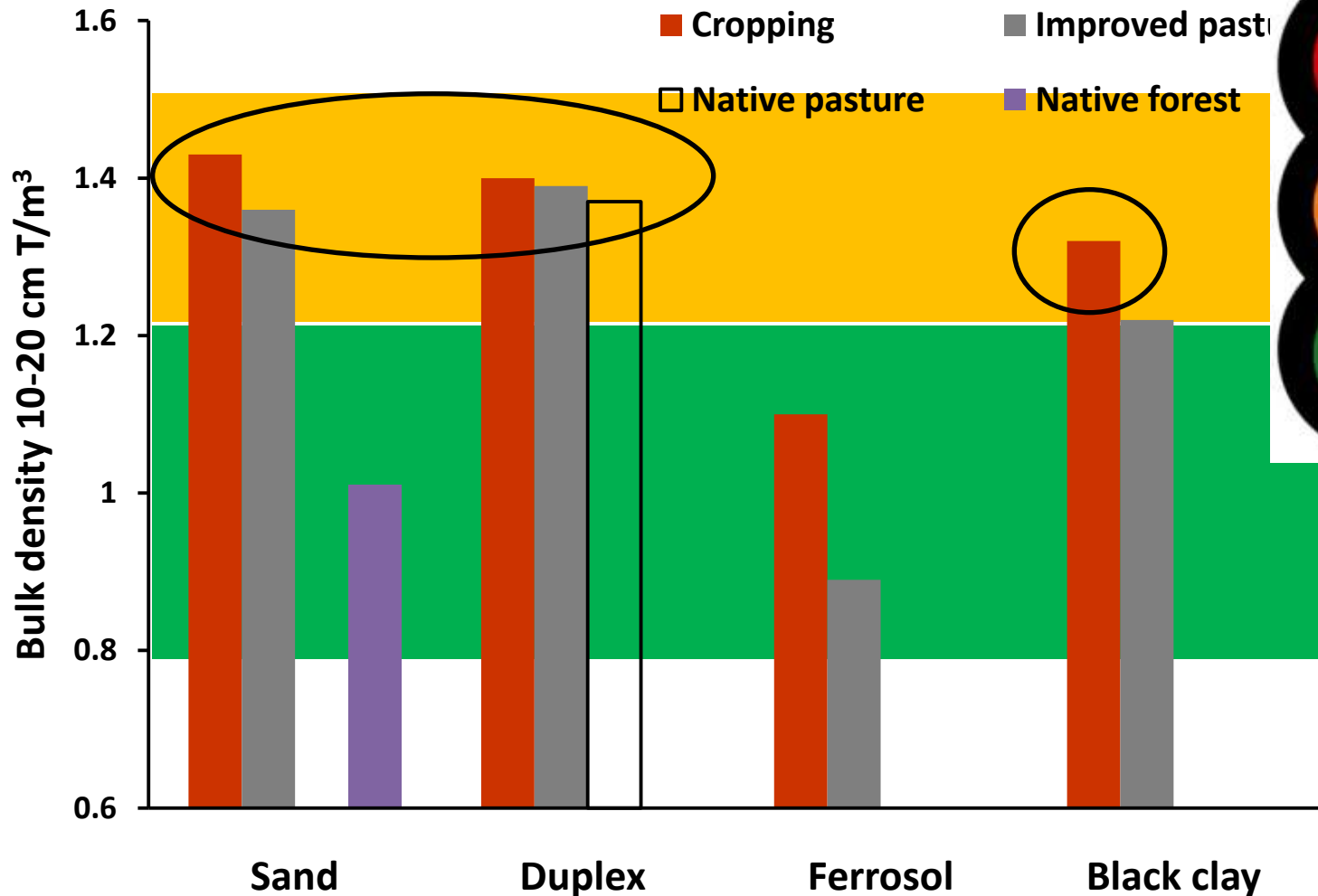
Bothwell bulk density 0 – 10 cm depth



Bothwell bulk density 10 – 20 cm depth



Bothwell bulk density 10 – 20 cm depth



Summary of Bothwell data

**Carbon stocks under pasture are less than in other districts
due to lower rainfall?**

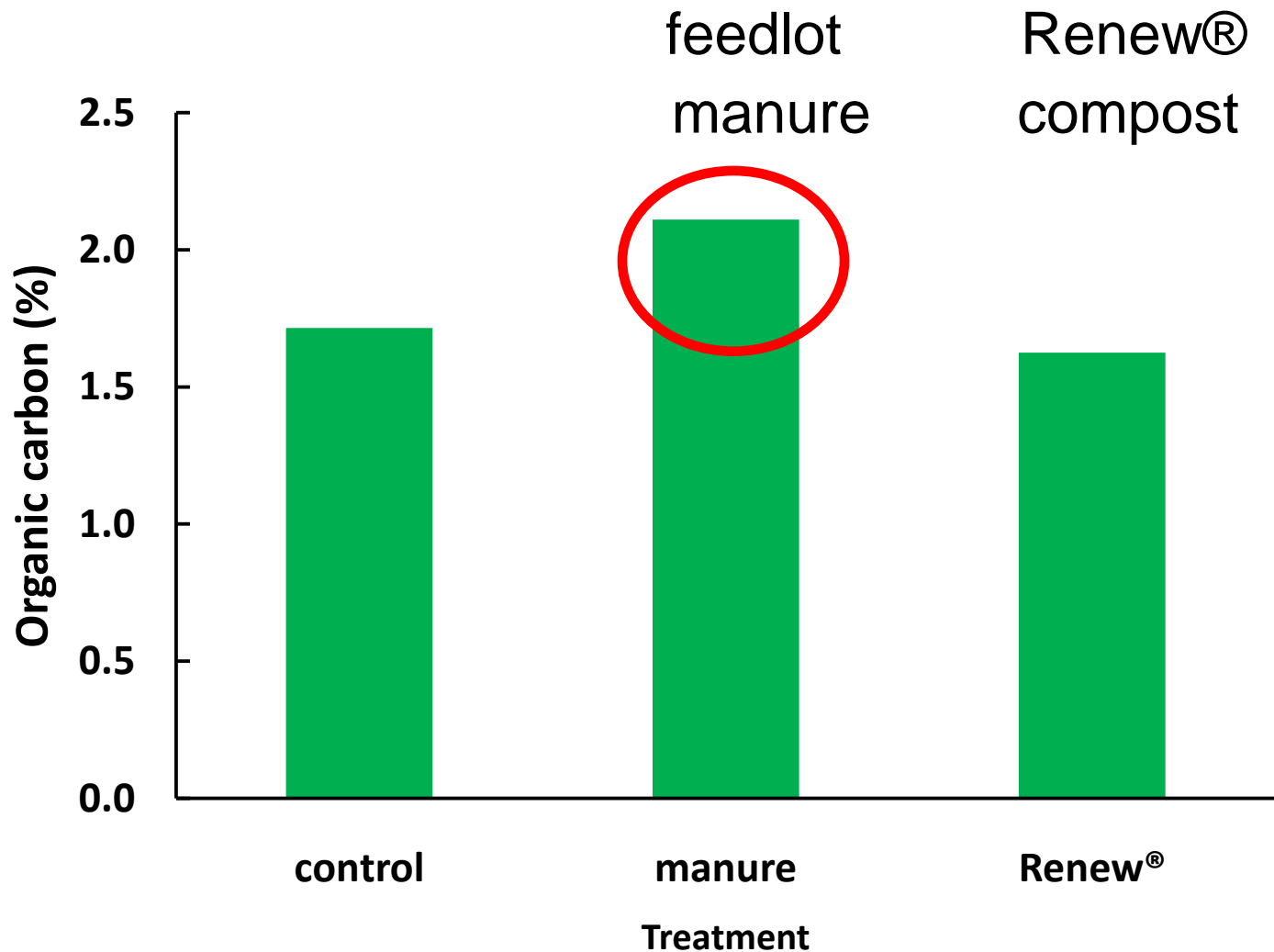
Carbon stocks under cropping are likely to decline further.

**Bulk density under cropping has increased
to critical levels on sands and sandy loams.**

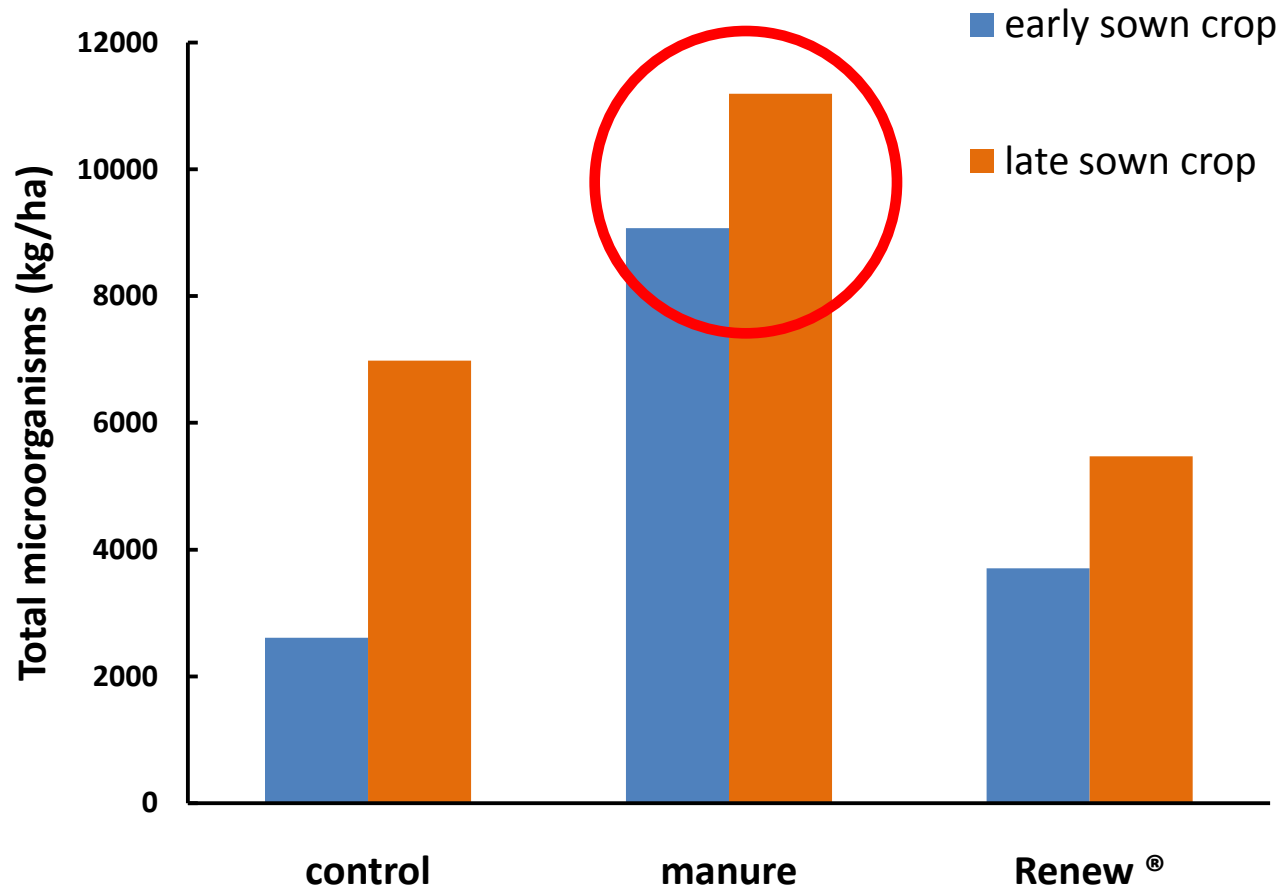
Ratho trial – feedlot manure v's Renew[®] compost



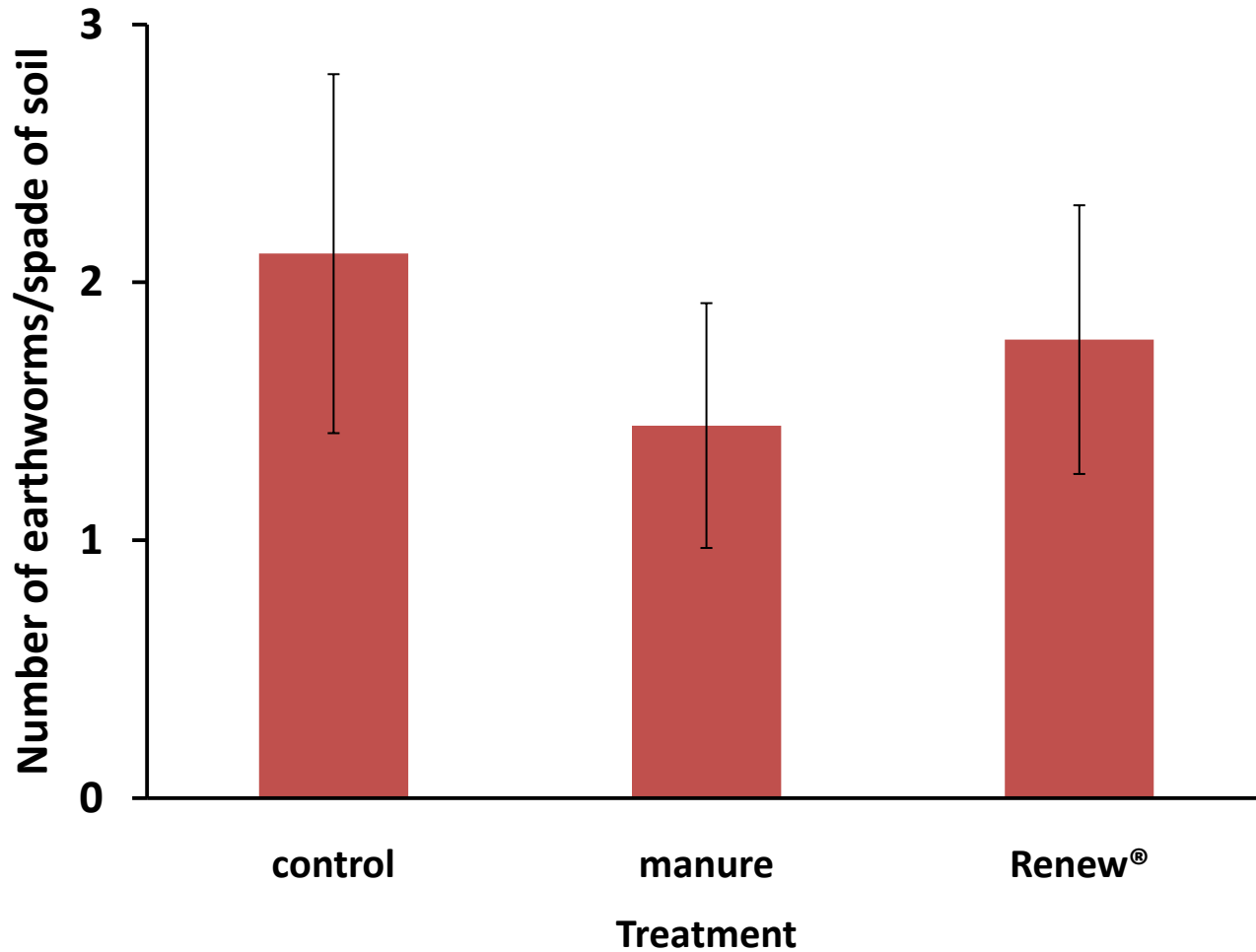
Ratho trial results – soil carbon



Ratho trial results – Total micro organisms



Ratho trial results - earthworms

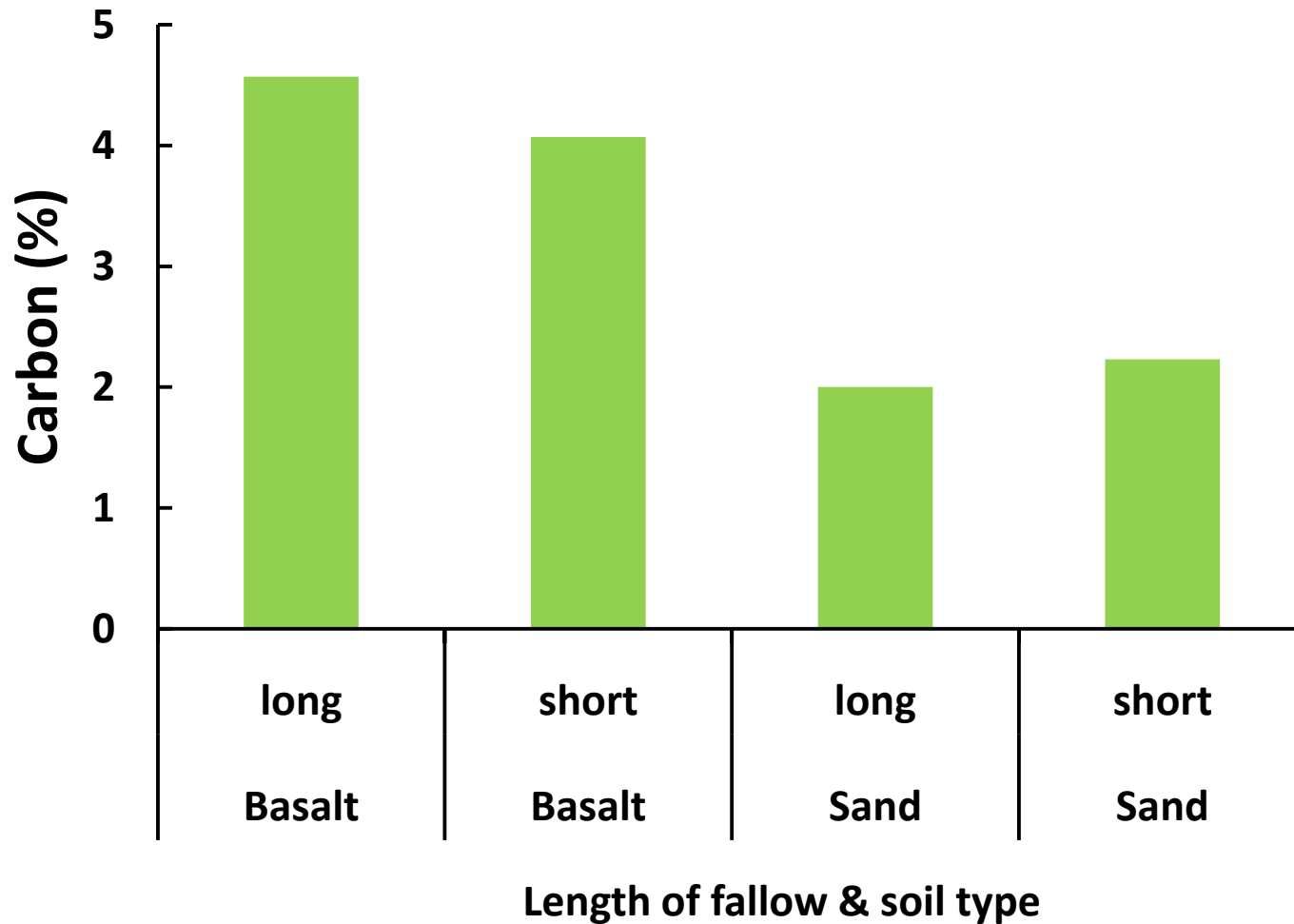


Bendeveron trial

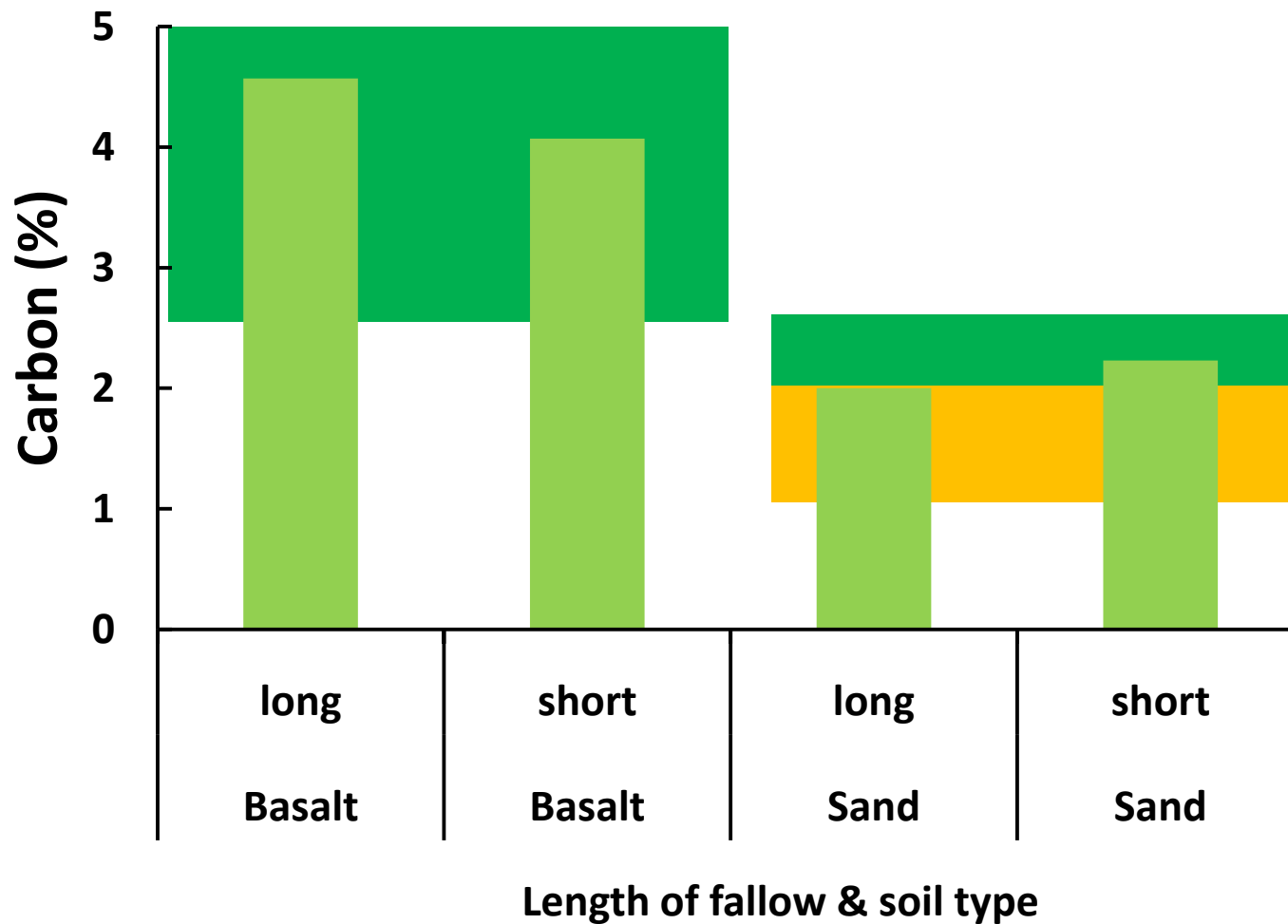
short fallow (6 weeks) v's long fallow (12 weeks)



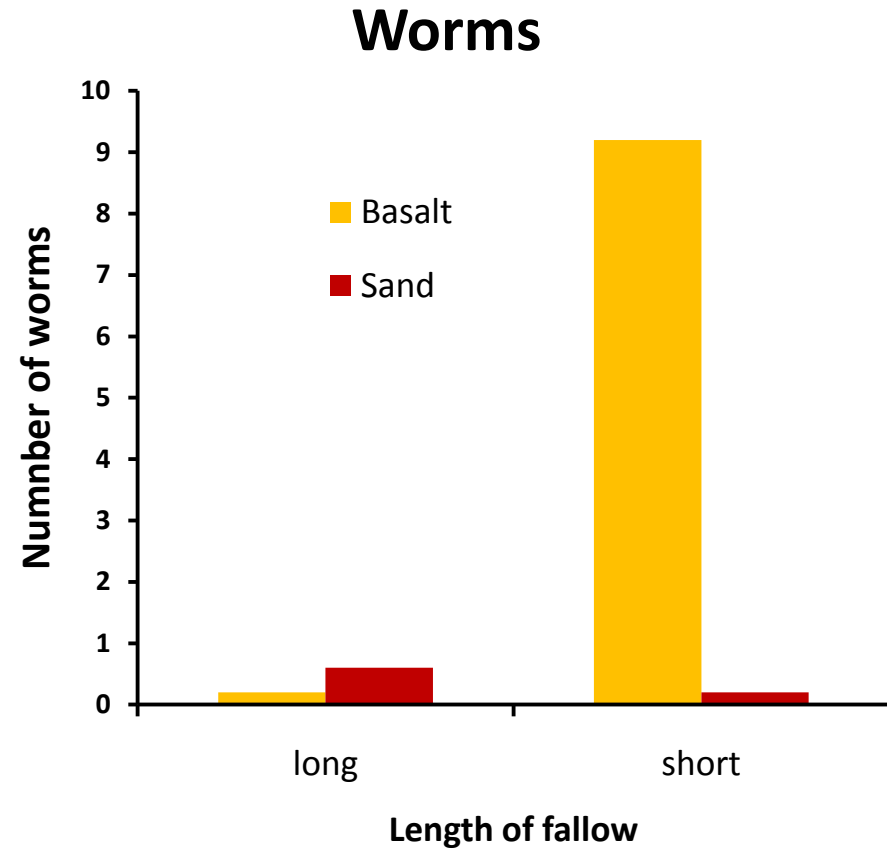
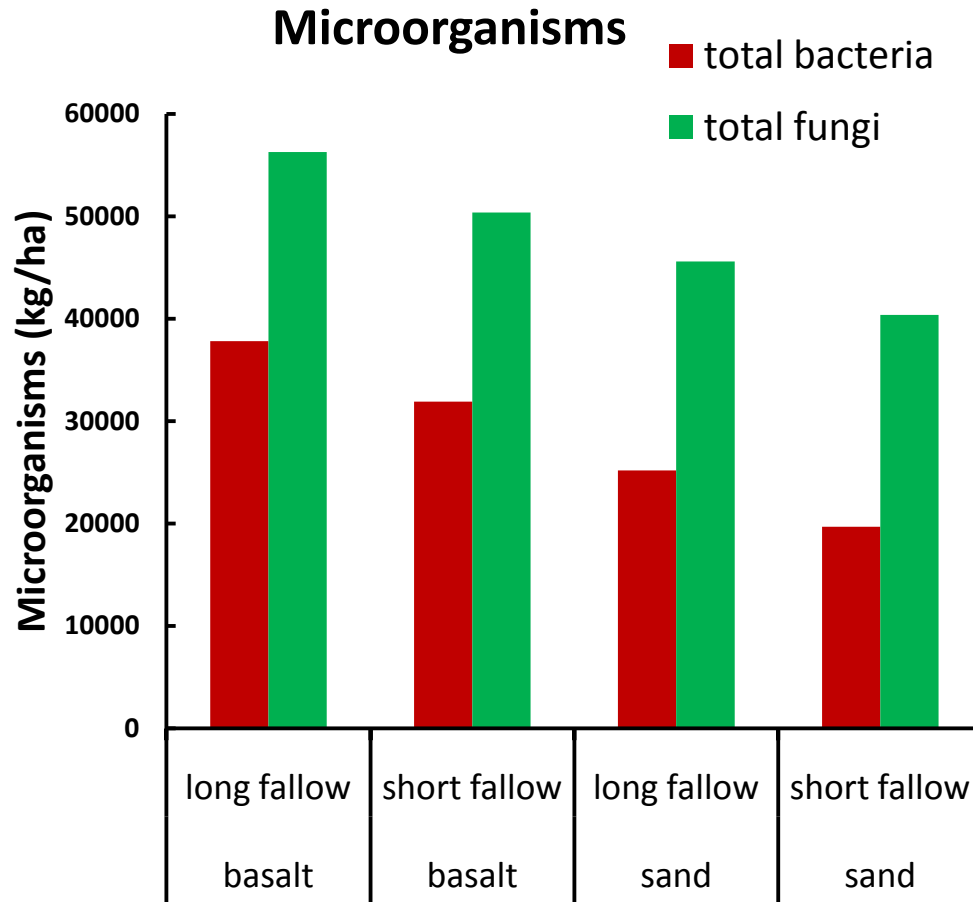
Bendeveron trial results – soil carbon



Bendeveveron trial results – soil carbon



Bendeveron trial results



Summary of trial results

Different soils respond differently to treatments

“Mixed” trial results from different amendments

- ❖ They don't all work all the time
- ❖ Some work some times!

Adding organic matter increases microbe No's & diversity

You can grown lots of organic matter

Find that earthworm spot on the basalt!

No silver bullets (magic mix) for improving soil health

- it all comes back to management of soils and rotations



**THANK
YOU**