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Tree leaves as supplementary feed for ruminant livestock ?

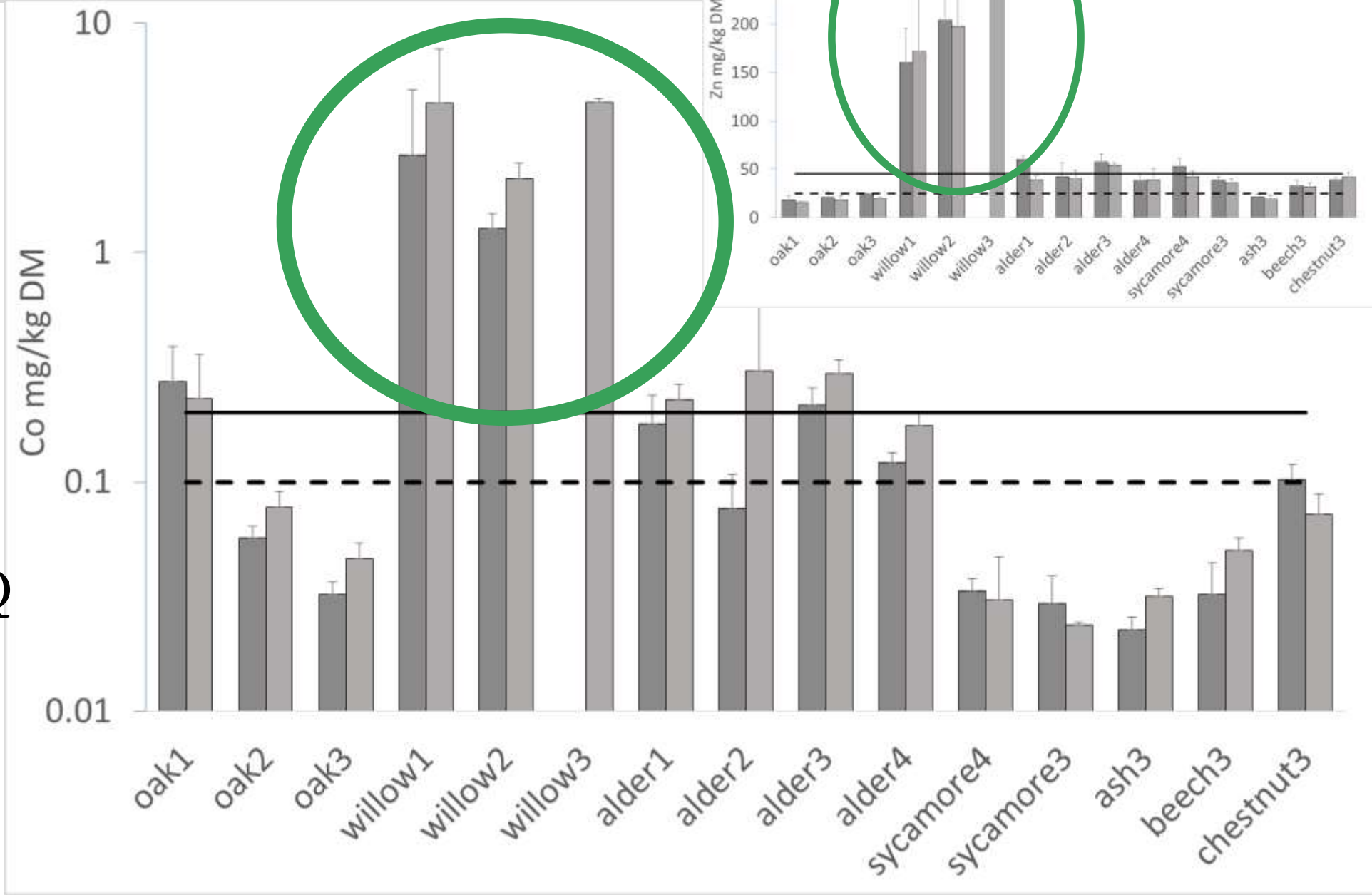
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- The background findings
- The context of need
- Did it actually work
- The remaining question(s)
- Thank yous

Background findings

- Woodland Trust funded work
- With ORC, Reading, Bangor, GWCT
- Leaf contents
- (inc petiole, no twig)
- High Co ~10x RQ
- Also high Zn

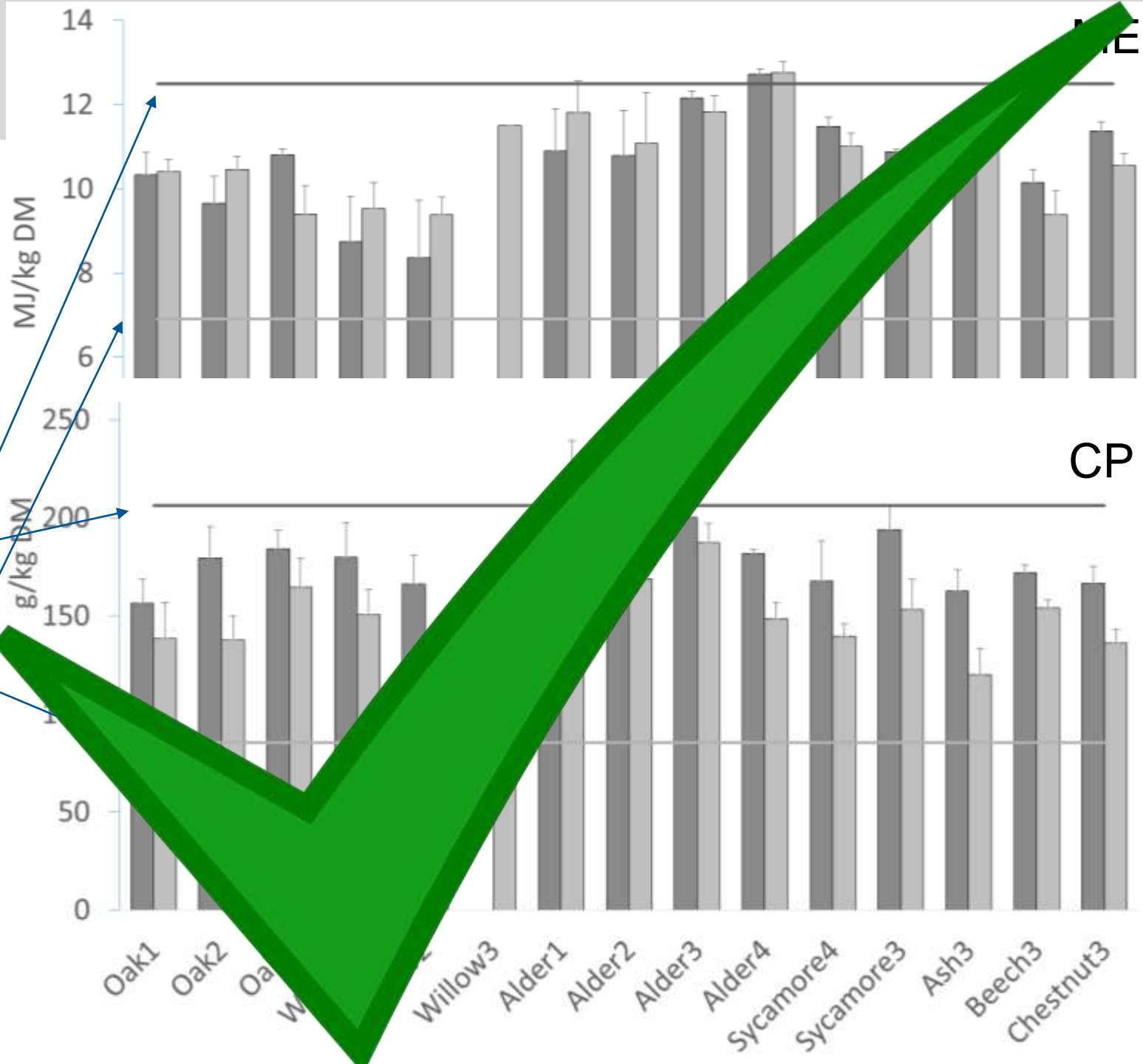


What about the basic nutrients?

Plotted against requirements for:

A 20kg lamb growing at 250g/d

A 40kg lamb growing at 150g/d





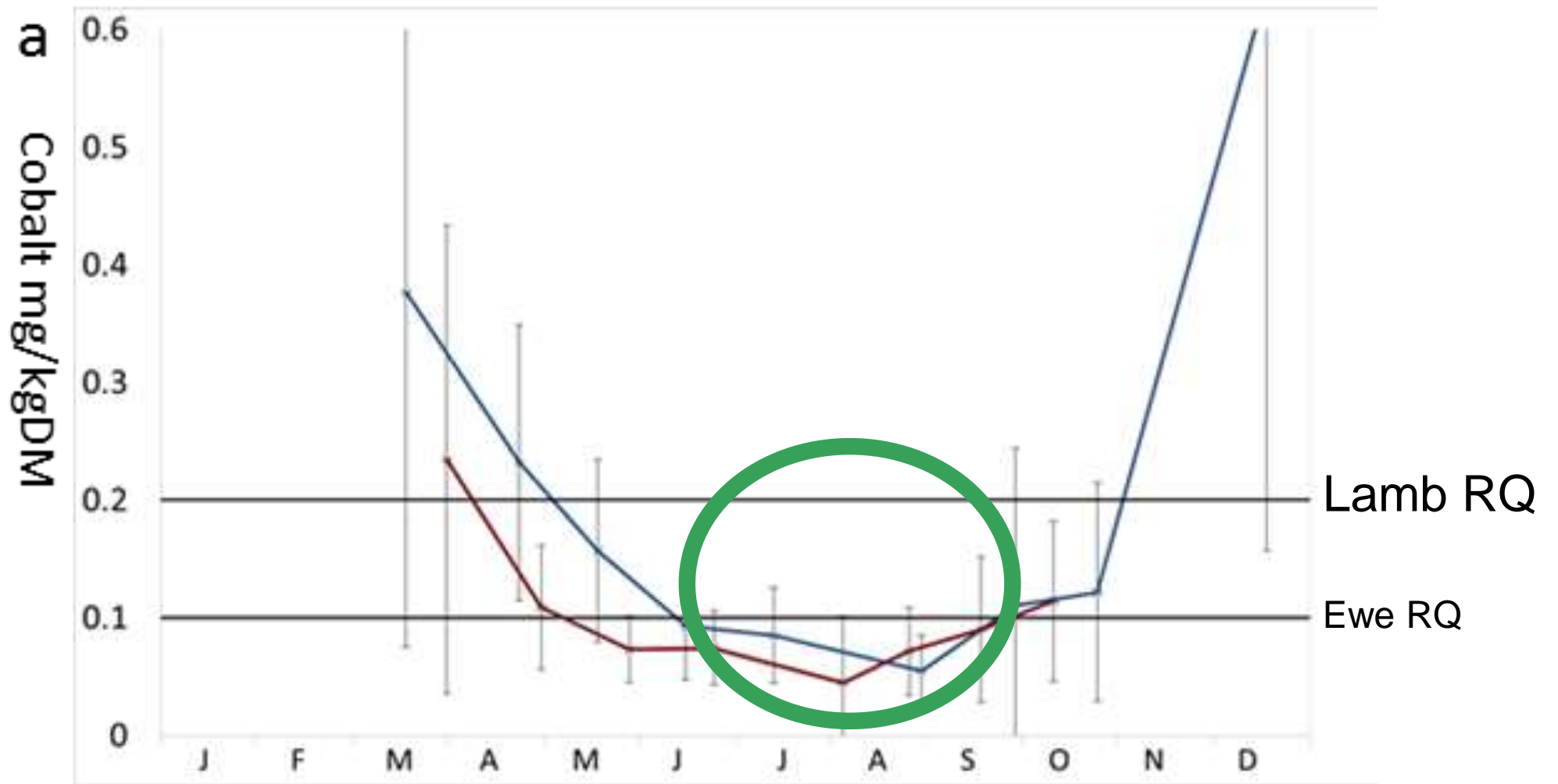
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What can I do with the High Cobalt?

Context of need!

Season effects



- DEFRA SIP funded - Predominantly PRG fields across 2 grazing seasons
- 2015b (red) much drier spring than 2016 (blue)



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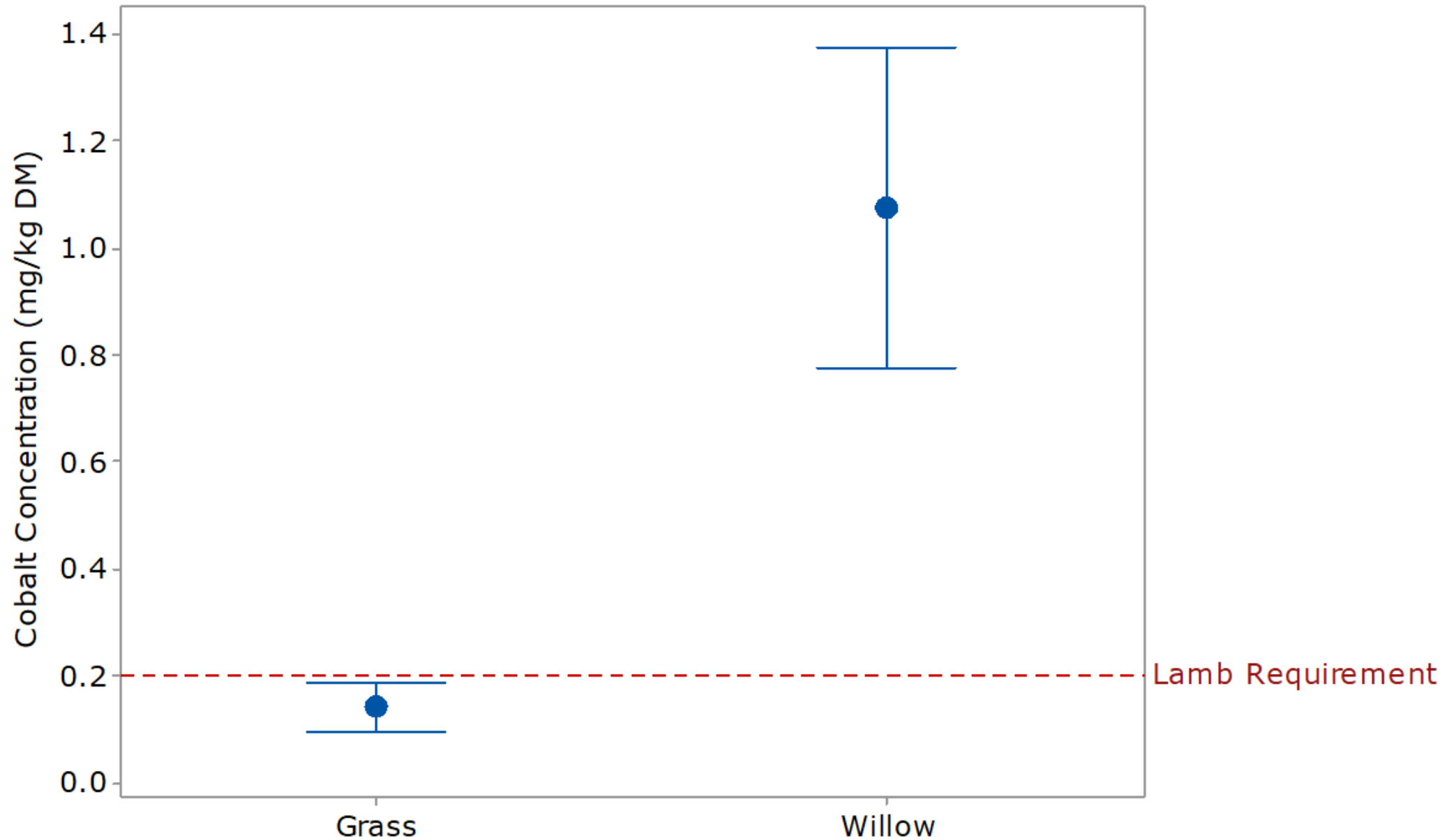
Using as a supplemental feed

Did it actually work?

What we did

- 24 x ~26 kg aberfield x weaned lambs
- Split to 6 groups (balanced by weight and sex)
- Initially 6 individual pens, later pen and field
- Previously wormed and supplemented with Se/I
- 3 treatment each to 2 groups:
 - Willow 300g/d fresh leaf (= ~100g DM, ~10-15% of DMI)
 - Drench with 2.8mg Co (sulphate) = 14 x daily RQ
 - Control = nothing
- Bloods and weighed at day 0 (pretreat) and day 14
 - Vitamin b12 concentrations

Confirmation of Cobalt concentrations

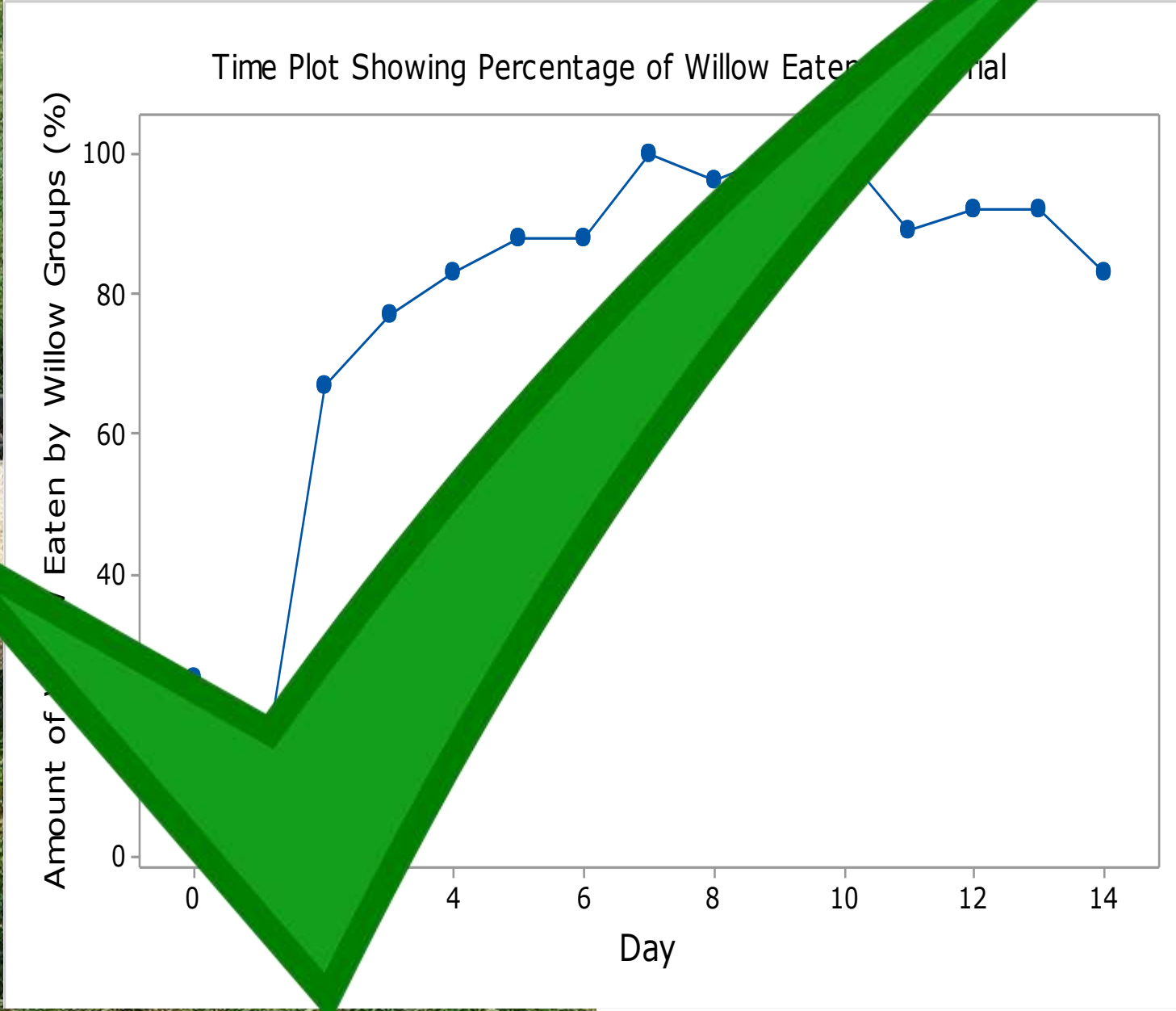


That's a lot of leaf!!

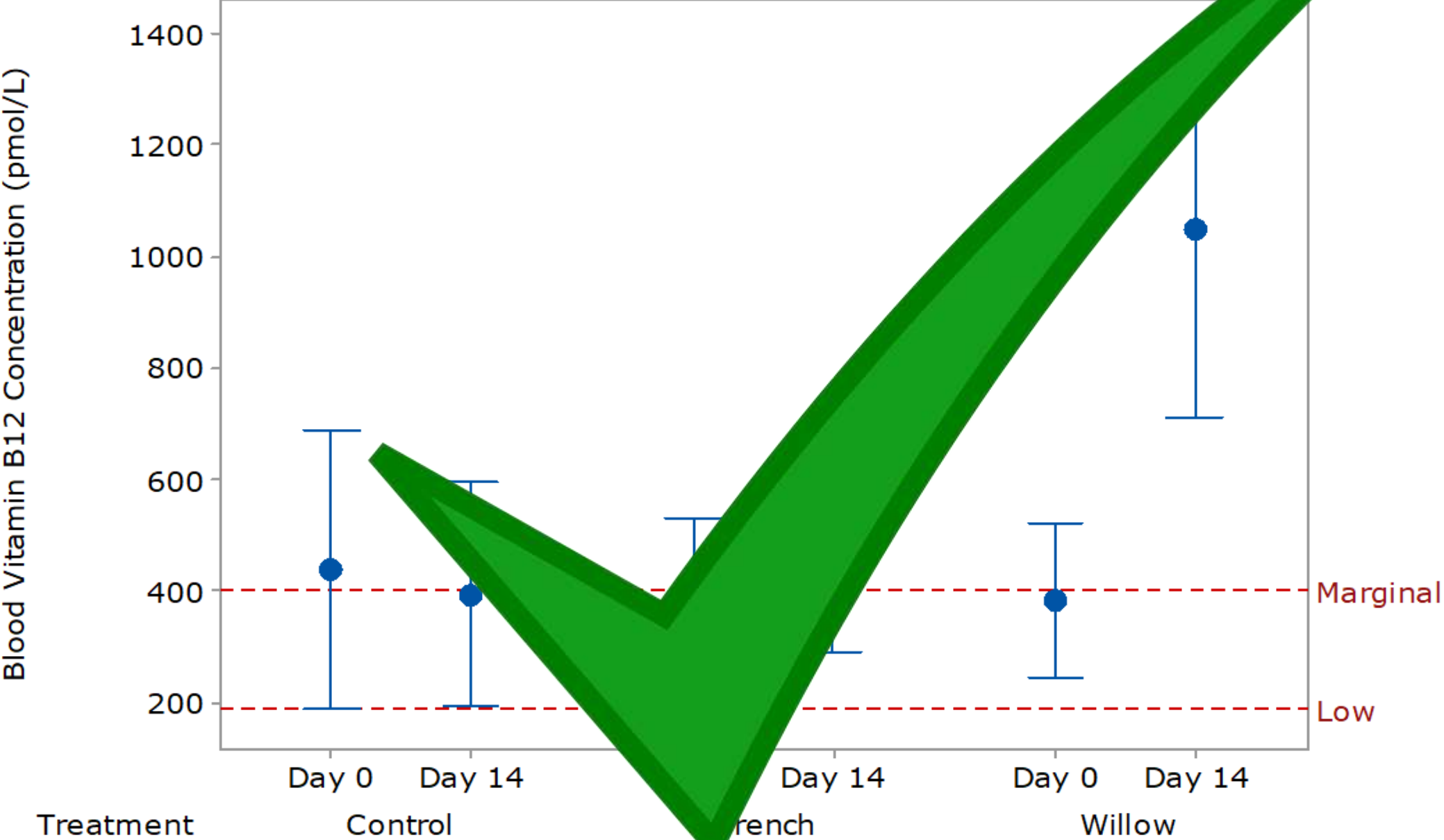


Willow leaves for 1 pen of 4 sheep = 1.2 kg

Did they eat it?



Did it work as a supplement?





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What now?

The remaining question(s)

The questions

- Picking leaves to feed is very labour intensive
 - How much willow is needed?
 - Use of branches
 - How often do we need to offer willow to get the effect?
 - Systems of planting/utilisation in situ browsing
 - Working with energy biomass production?
- Potential anthelmintic properties
 - Tannins, enhanced cobalt status

Acknowledgements

- Woodland Trust
- Ben Walker (Project student and Giraffe), svms, UoN
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Any Questions?

Think now

Ask later in discussion