

Mineral nutrition in pregnant ewes grazing cereals crops

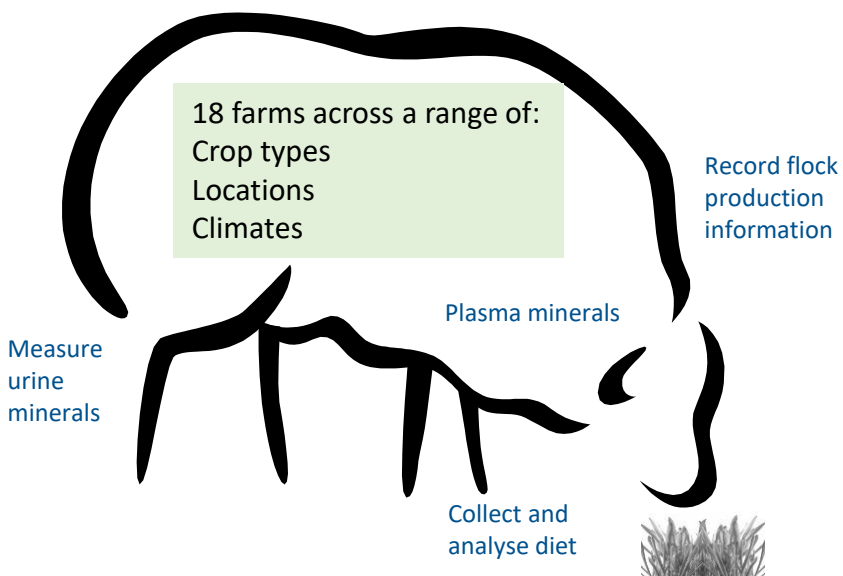
Why do we do it?

- Alleviate winter feed gap
- High nutritive value (ME>12 MJ/kg, CP>20%)
- Complex mineral composition (low sodium, magnesium and calcium; high potassium, high DCAD)
- Risk of metabolic disease

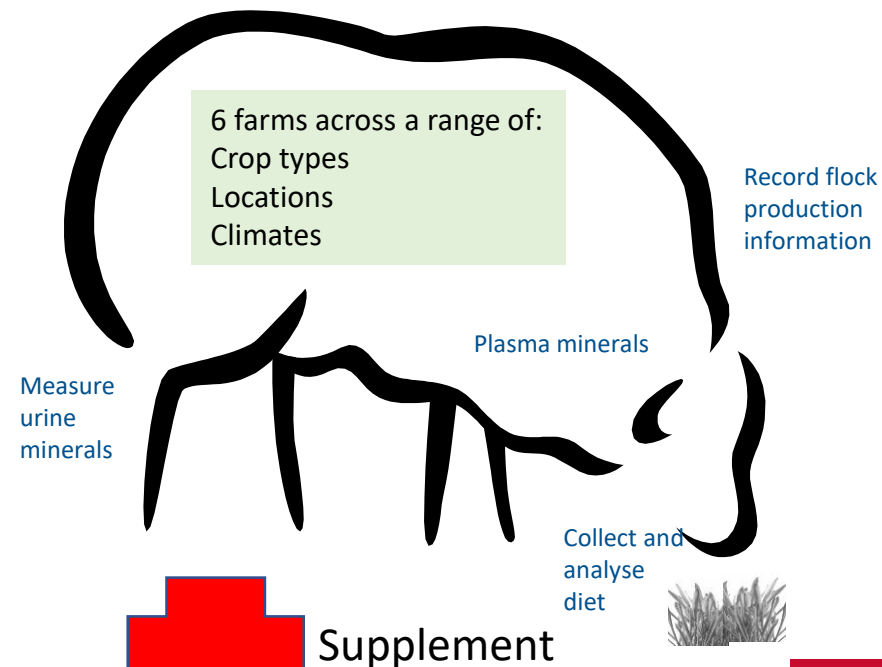


What's been done

Experiment 1

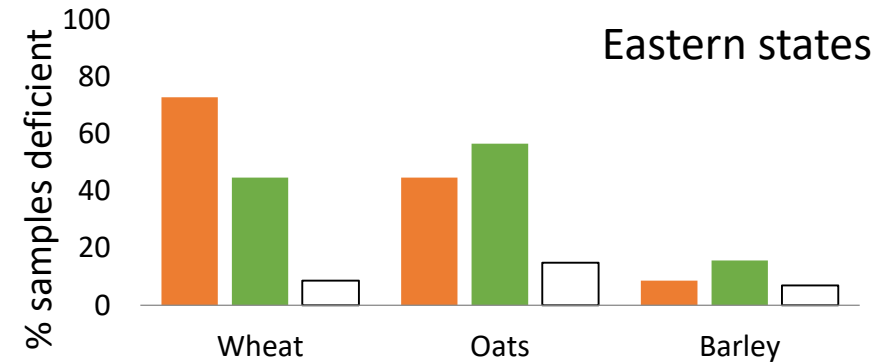
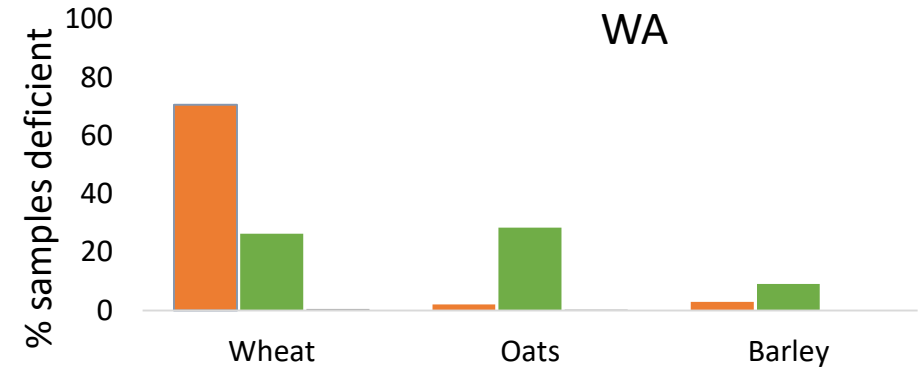


Experiment 2



What we know

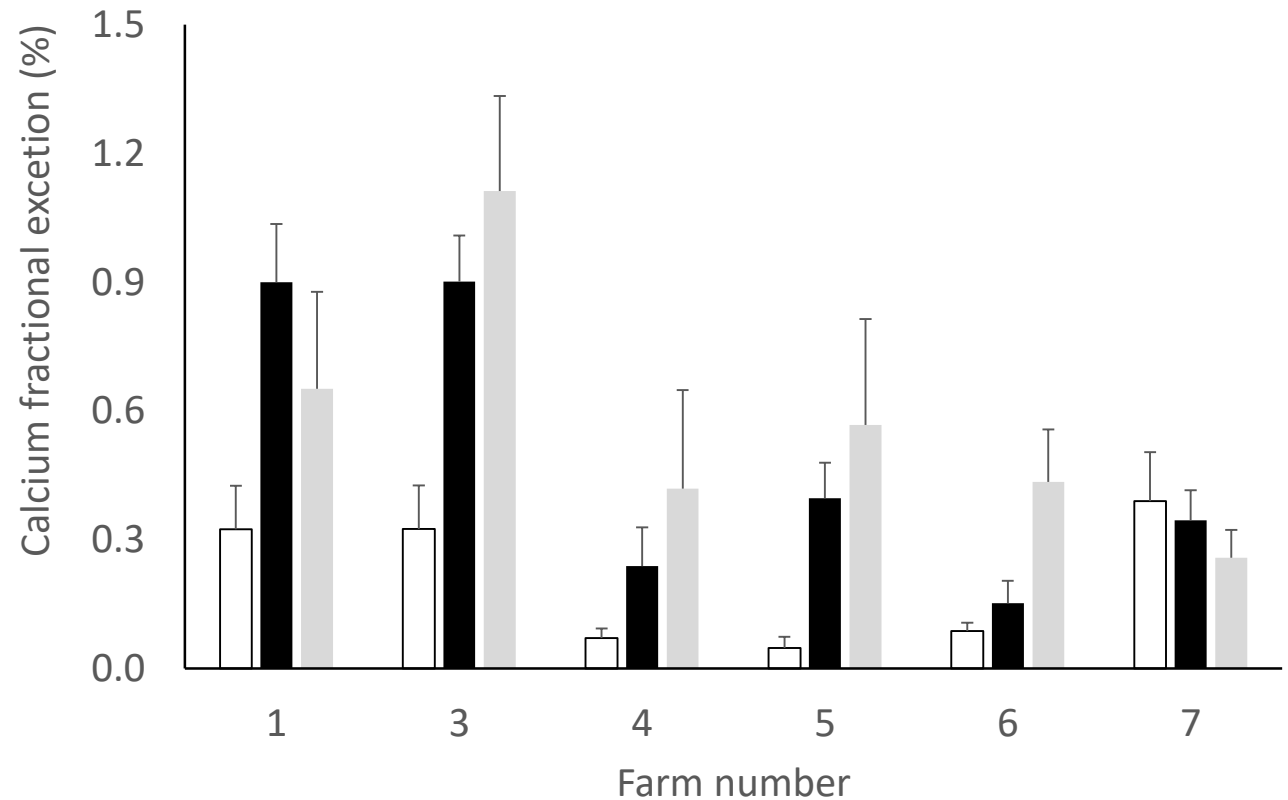
- High proportion of crops provide less Na, Ca, and Mg than required
- WA lower risk of mineral deficiency than eastern states
- Graze crops at the Z21 stage – when firmly anchored
- Remove animals from crops before growth stage 31



Sodium = orange bars
 Calcium = green bars
 Magnesium = open bars

Mineral supplementation

- Industry supplement 2:2:1
 - Calcium carbonate (lime)
 - Magnesium oxide (causmag)
 - Sodium chloride
- Experimental supplement
 - Magnesium chloride
 - Calcium sulphate
 - Sodium chloride



Fractional excretion of Ca from sheep fed no supplement (open bars), industry supplement (black bars) and new supplement (grey bars)

Both supplements improved measures of Ca status

What we know

- Ewes gained condition score when FOO as low as 200kg DM/ha
- Risk of metabolic disease is greatest for wheat>barley>oats
- Grazing ewes longer than 21 days may increase the risk of metabolic disease
- Mineral supplementation improves Ca status of the ewe



What we don't know

- Whether improving Ca, Mg and Na status of ewes in late pregnancy decreases metabolic disease
- Flock scale production response - actual benefits in ewe and lamb survival
- Risk profiles for different crops and locations
- The impact of shelter on lamb survival

Grazing cereal crops

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