The effect of dietary calcium on soluble faecal phosphorus in dairy cows

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AIM
To evaluate the effect of different levels of calcium on faecal excretion of soluble phosphorus.

CONCLUSIONS
Addition of calcium to dairy cow diets resulted in a smaller fraction of the faecal phosphorus in soluble form. This is a method that may reduce environmental pollution.

INTRODUCTION
Phosphorus (P) in dairy cow faeces is an environmental issue because of the eutrophication it causes in waters. Soluble P (sP) is labile and most susceptible to leakage. Earlier studies have shown an effect of dietary calcium (Ca) level on sP in faeces (Chapuis-Lardy et al., 2004).

MATERIALS & METHODS
Pregnant dry cows (n=29) were fed a diet with 3.7 g P/kg DM. Each cow was fed one of three different levels of limestone. Faecal samples were analysed for soluble P by water extraction and total faecal P (TP) by plasma emission spectrometry.

RESULTS
Dietary Ca-level affected the proportion of faecal sP even though it had no influence on faecal TP.

Figure 1. Proportion soluble P of total P in faeces from cows fed different amounts of Ca.

4.9 g Ca/kg DM 9.3 g Ca/kg DM 13.6 g Ca/kg DM
49% 14% 10%

REFERENCES