LIMING AND SEWAGE SLUDGE INFLUENCE ON CA SOIL AND UNDERSTORY DEVELOPMENT IN REFORESTED *PINUS RADIATA* D. DON PLANTATIONS

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OBJECTIVE: to evaluate the effect to liming and three sewage sludge doses applied in differents dates on Ca evolution (soil and pasture), in a silvopastoral system established in a very acid soil with *Pinus radiata* D. Don after a pasture was sown

MATERIAL AND METHODS

Located: San Breixo Forest Community (Guitiriz, NW Spain)

Methodology: in October 1999, when the forestry plants were one year old, an experiment was established in 39 (13 treatments x 3 replicas) experimental units of 12 x 8 m

Treatments: **NF: No Fertilization treatment**

Lime plots (2.5 Mg ha^{-1}) and Unlimed plots

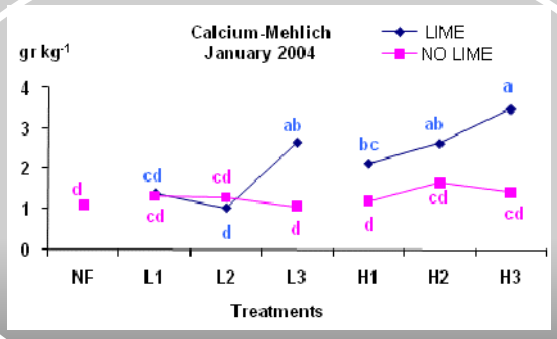
- **L1:** 50 kg total N ha^{-1} (February)
- **L2:** 50 kg total N ha^{-1} (March)
- **L3:** 50 kg total N ha^{-1} (April)
- **H1:** 100 kg total N ha^{-1} (February)
- **H2:** 100 kg total N ha^{-1} (March)
- **H3:** 100 kg total N ha^{-1} (April)

Elements studied:

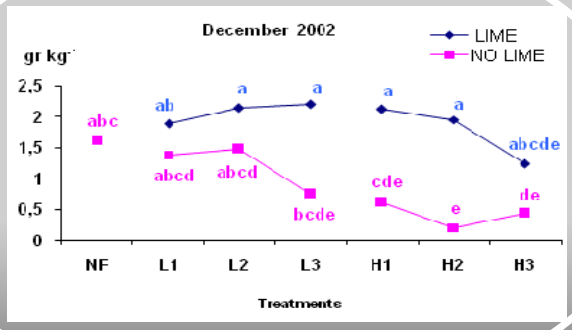
Ca evolution in soil and pasture

Results

Soil



Pasture



LIME+HIGH DOSE OF SEWAGE SLUDGE IN APRIL → Ca-Mehlich

LIME+LOW DOSE OF SEWAGE SLUDGE → Ca concentration in the pasture

Conclusions

The application of lime and doses of sewage sludge increased the Ca concentration in the soil and in the pasture, especially when the date of fertilization was late.