Book of abstracts


# Phosphorus in Soils and Plants Symposium

*Towards a sustainable phosphorus utilization in agroecosystems*

FACULTAD DE AGRONOMÍA

INIA
Instituto Nacional de Investigación Agropecuaria
URUGUAY


# abstracts

# Theme 4 - Sustainable intensification of phosphorus supply in food production
# Poster Session

# Long term change in soil test P and farm gate P balance of grazing dairy farms of southern Uruguay

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Uruguayan dairy farms underwent an important intensification process during the last decades. Although pasture-based grazing systems are still dominant, one important component of such intensification is the increase of extra-farm feed inputs, along with an increased stocking rate and an increased supplementation rate per cow. Another component is the generally higher fertilizer rates used to increase forage productivity. In this study we compare soil P tests from a set of 25 dairy farms surveyed initially during 2005, 2006 or 2007 and surveyed for a second time in 2022. Composite soil samples were collected from two paddocks per farm at one georeferenced point per paddock. Sampling depths were 0-7.5 and 7.5-15cm on both surveys. In the 2022 survey we sampled additionally at the 0-2.5cm depth, as an environmental indicator for P runoff risk. Soil P tests were Bray-1 and citric acid 0,5%. Records of P inputs (fertilizer, imported feed) and outputs (milk production and liveweight gain) collected on a monthly basis (“Producción Competitiva” support platform of Conaprole cooperative) will be used to estimate a cumulative farm gate P balance. We will analyze and discuss soil P tests of two sampling times and explore empiric relationships between observed changes in soil P test and cumulated farm gate P balance.