

[Back](#)

Agricultural and Food Science - abstract



Vol. 14 (2005), No. 3, p. 264-276

BÄCKMAN, STEFAN, LANSINK, ALFONS OUDE,
Crop and soil specific N and P efficiency and productivity in
Finland

Keywords productivity, fertilization, wheat, barley, oats,

Abstract

This paper estimates a stochastic production frontier based on experimental data of cereals production in Finland over the period 1977-1994. The estimates of the production frontier are used to analyze nitrogen and phosphorous productivity and efficiency differences between soils and crops. For this input specific efficiencies are calculated. The results can be used to recognize relations between fertilizer management and soil types as well as to learn where certain soil types and crop combinations require special attention to fertilization strategy. The combination of inputs as designed by the experiment shows significant inefficiencies for both N and P. The measures of mineral productivity and efficiency indicate that clay is the most mineral efficient and productive soil while silt and organic soils are the least efficient and productive soils. Furthermore, a positive correlation is found between mineral productivity and efficiency. The results indicate that substantial technical efficiency differences between different experiments prevail.

Contact stefan.backman@helsinki.fi

[\[Full text\]](#) (PDF 147 kt)

Update 29.11.2005.

Source: MTT's Publications database [Afsf](#)