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USE OF ^{32}P IN SHORT TERM EXPERIMENTS WITH BEAN
(Phaseolus vulgaris L.)

Itamar P. Oliveira
National Research Center for Rice and Beans
74000 - Goiania, Goias - Brazil

E. Malavolta
Plant Nutrition Section
CENA - Piracicaba, Sao Paulo - Brazil

Among the processes used to explain plant tolerance to Al toxicity we can cite the past accumulation of phosphorus by the plant and the use of this phosphorus later by the plant. To test for accumulation of P, an experiment using ^{32}P was carried out to determine if there is a correlation of multiple regression analysis in six varieties which were formerly classified into different grouping with reference to Al tolerance.

Bean plants, which were grown in a nutrient solution for 40 days, were washed three times and placed for 2 hours into a solution of water containing ^{32}P with 2.5 uCi/ml.

The varieties used were:

Aluminium tolerant	Aluminium sensitive
V_{20} - Mulatinho Paulista	V_{17} - Jamapa
V_{26} - Ricobaio 1014	V_{28} - Rio Tibagi
V_{33} - Roxo 760	V_{34} - Tambo

The results of ^{32}P absorption are shown in the following graph:


Al ppm
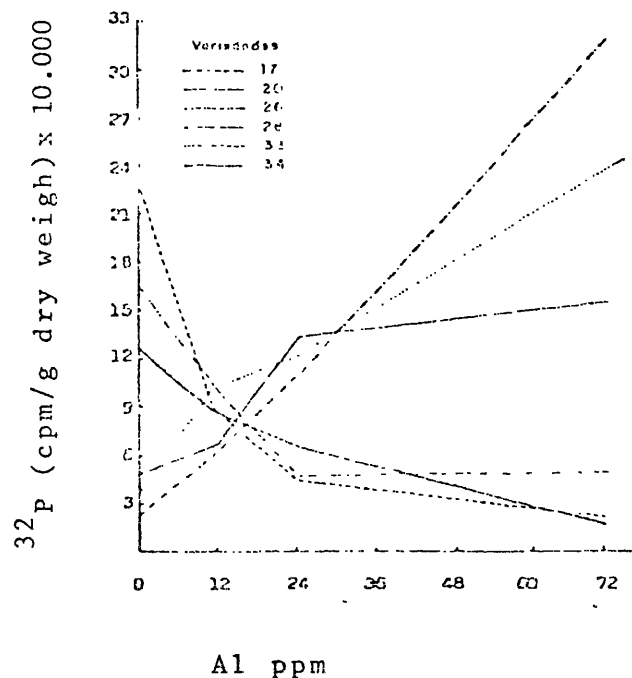
Short term experiments on the influence of Al concentration on ^{32}P up-
take showed differences in the reaction of sensitive and tolerant varieties.

Chopped roots showed to be the best parameter to classify varieties
into tolerant and sensitive ones.

Another test was carried out using three varieties selected by the
previous method to test the ^{32}P absorption in presence of 10^{-7}, 10^{-5}, 10^{-3}
and 10^{-1}M of unlabeled P during two hours and the results are shown on the
following graph:

V_{20} - Mulatinho Paulista - tolerant
V_{26} - Ricobaio 1014 - tolerant
V_{28} - Rio Tibago - sensitive
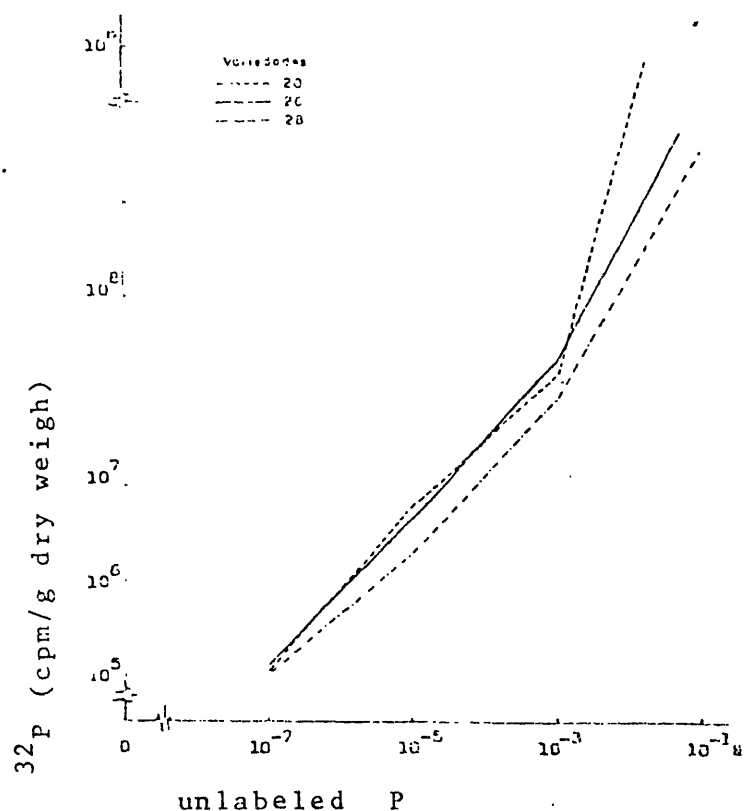
The test was efficient in classifying sensitivity to Al. The tolerant
varieties showed greater capacity to absorb P under the condition of both
experiments.