The use of plant analyses for the determination of phosphorus requirements of wheat on summerfallowed land:- H. G. Zandstra, Melfort.

Top growth of wheat was sampled between boot stage and heading stage from plots of phosphorus fertilization trials at 6 sites in northeastern Saskatchewan. Phosphorus analyses of the plant material showed a definite pattern at all sites except the Melfort sites. Phosphorus levels dropped at lower levels of fertilization and increased when maximum yield response was approached. By plotting phosphorus contents against yields a good estimate of the nutritional status of the crop was obtained.

Phosphorus contents of the plant material varied widely between sites, mainly because of maturity differences. To reduce the effect of maturity the ratio of total phosphorus over total nitrogen was used to compare sites. When this ratio was plotted against yields, similar curves were obtained and sites were more comparible. There was indication of luxurious uptake of phosphorus at several sites but no exact evaluation of the amount of possible luxurious uptake could be made.