NOTES
THE RELATIVE COST OF PLANT FOOD ELEMENTS IN FERTILIZER MATERIALS

The statement is frequently heard that nitrogen is the most costly plant food element. This statement was unquestionably true a number of years ago; but there has been, in recent years, a much greater decrease in the prices of nitrogen carriers than in the prices of carriers of other plant food elements.

An inspection of fall fertilizer price lists for the states of Ohio, Indiana, and Michigan leads to the following average prices per ton for this territory: Muriate of potash, 50%, at $49.50; sulfate of ammonia, 20.8%, at $29.50; 20% superphosphate at $26.40; and 45% superphosphate at $51.75. The cost per unit of plant nutrients based on these prices is $0.99 for potash, $1.42 for nitrogen, and $1.32 and $1.15 for phosphoric acid in the 20% and 45% superphosphate, respectively. According to these figures, it might again be said that nitrogen is the most costly of the plant food elements. In arriving at this conclusion, however, it will be noted that the price of elemental nitrogen has been considered, while the costs of potash and phosphoric acid have been figured in terms of K₂O and P₂O₅, respectively. This method of calculation is evidently erroneous, since plants do not feed on elemental N any more than they do on elemental P and K.

To place the matter on a comparative basis, the cost of each plant nutrient should be calculated on the elemental basis. Following this method of calculation, we find that while nitrogen costs $1.42 per unit, phosphorus costs $3.02 per unit in 20% superphosphate and $2.63 per unit in 45% superphosphate, and that the cost of potassium is $1.19 per unit. It is evident from these figures that phosphorus