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OPTIMUM AND ECONOMIC LEVELS OF PHOSPHORUS AND POTASSIUM FERTILISATION FOR GROUNDNUT

(*Arachis hypogaea L.*)

With the object of studying the response of graded doses of phosphorus (50, 75 and 100 kg P_2O_5/ha) and potassium (25, 50 and 75 kg K_2O/ha) on two varieties of groundnut, an experiment was conducted in the Instructional Farm, College of Agriculture, Vellayani during 1976-77. Quadratic response curves of the type $Y = c + bx + ax_2$ were found to be the best fit to the data for both phosphorus and potassium. The response model for P_2O_5 was $Y = 696.3012 + 28.0176P - 0.1484P^2$, while the model for K_2O was found to be $Y = 1570.7121 + 8.6284K - 0.0347K^2$. The optimum level $\left(\frac{-b}{2a}\right)$ and the economic level $\left(\frac{-b + \frac{PX}{PY}}{2a}\right)$ of phosphorus (where PX, the price per unit input of P_2O_5 and K_2O were Rs. 3.50 and Rs. 1 .40 respectively and PY, the price per unit output was Rs, 2.50) were found to be 94 kg and 90 kg P_2O_5 per hectare respectively. The rates of increase in yie ld of pods per kg of P_2O_5 due to increasing levels of P_2O_5 from 50 to 75 kg and from 75 to 100 kg P_2O_5 per hectare were 23.64 kg and 5.11 kg respectively.

The economic and optimum doses of potassium were calculated as 116 kg and 1 24 kg K_2O per hectare, respectively. The rate of increase of pod yield per kg of applied K_2O for Increasing levels of potassium from 25 kg to 50 kg and from 50 kg to 75 kg K_2O per hectare were 15.08 and 10.68 respectively.

സംഗ്രഹം

നിലക്കടല ചെടിക്കാവശ്യമായ ഫോസ്ഫറസും, പൊട്ടാസിയം എന്നിവയുടെ തോത് അറിയുന്നതിനു വേണ്ടി കാർഷിക കോളേജിroi നടത്തിയ ഒരു പരീക്ഷണത്തിൽ ഫോസ്ഫേററിൻെറ പരമാനുകൂലതോതും, ആദായകraammMnja യഥാക്രമം 94 കിലോഗ്രാമും 90 കിലോഗ്രാമും ആണെന്നു കണ്ടു. അതുപോലെ തന്നെ പൊട്ടാഷിൻെറ പരമാനുകൂലതോതും ആദായകരതോതും 124 കിലോഗ്രാമും 110 കിലോഗ്രാമും ആണെന്ന് കാണുകയുണ്ടായി.

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