

## **ROLE OF PHOSPHORUS AND INOCULATION IN NITROGEN FIXATION BY SOYBEAN SELECTION NARC-6**

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### **ABSTRACT**

*Consequent upon the initiation of Oilseed development programme at Pakistan Agricultural Research Council, Islamabad in 1977, extensive research work for the development of early maturing, high yielding, drought and disease resistant varieties of soybean is in progress at different research stations including National Agricultural Research Center, Islamabad. The assessment of nitrogen fixation by soybean could be one of the important selection criteria for superior soybean varieties because  $N_2$  fixation is a major factor of soybean productivity. Soybean Selection NARC-6 has been reported to perform relatively better in  $N_2$  fixation. The current field study was conducted at UAAR farm on soybean selection (NARC-6) to assess that how much  $N_2$  fixation capacity of selection NARC-6 could be enhanced by inoculation and phosphorous application. Nitrogen fixation was assessed by xylem solute technique. Maximum  $\%P_{fix}$  (52%) was shown by soybean inoculated and P-fertilized while the lowest (40%) was shown by control. Similarly maximum grain yield of  $1.4 \text{ t ha}^{-1}$  was obtained from soybean inoculation and P-fertilization, followed by  $1.2 \text{ t ha}^{-1}$  by soybean P-fertilized and  $1.0 \text{ t ha}^{-1}$  by soybean inoculated and control.*