

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Agnihotri V.B. (1970), Solubilization of insoluble phosphate by some soil fungi isolates from nursery seeds beds.
Can. J. Microbiol. 16: 877-880.
2. Ahmad, N. and Jha K.K. (1977). Effect of inoculation with phosphate solubilizing organisms on yield and P-uptake of gram.
J. Indian Soc. Soil Sci. 25: 391-393.
3. Akhtar S.M. Afridi M.M.R.K. and Khan M.M.A. (1982). Effect of basal nitrogen and phosphorus on yield characteristics of summer moon. (Vigna radiata Var. T-S44). Ind. J.Plant Physiol. 25:27-31.
4. Alagwadi A.R and Gour A.C (1988). Associative effect of Rhizobium and phosphate solubilizing bacteria on the yield and nutrient uptake of chick pea.
5. Andrew C.S., (1977). Nutritional restraints on legume symbiosis. In exploiting the legume-Rhizobium symbiosis in Tropical Agriculture. Ed. J.M. Vincent pp. 253-274. Uni of Hawai College of Tropical Agriculture Hawai.
6. Anonymous, 1980. Fertilizers Statistics. The fertilizer association of India, New Delhi. pp II 30-33.
7. Appleby C.A and Bergerson P.J (1980) Preparation and experimental use of leghaemoglobin in : Methods for evaluating biological nitrogen fixation (Ed.

P.J.Bergerson) Wiley interscience Publication John Wiley & sons Ltd. pp: 315-356.

8. Arnon, D.I. (1949). Copper enzymes in isolated chloroplasts polyphenol oxidase in *Beta Vulgaris* Plant Physiol, 24:1-15.
9. Asea, PEA, RMN. Kuckey and J.W.B. Sterwart. (1988) Inorganic phosphate solubilization by two penicillium sps. in solution culture and soil Bio. and Biochem. 20 (4): 459-464.
- 10.. Bajpai P.D. (1965). The influence of selected microflora on the solubilization of phosphorus and uptake of this element by wheat, cowpea and berseem crops. Ph.D Thesis, P.G. School IRRI New Delhi.
11. Bajpai, P.D. and Sundar Rao W.V.P. 1971. Phosphate solubilizing bacteria III Soil inoculation with phosphorus solubilizing bacteria. Soil sci. Plant Nut, 17: 46-63.
12. Banik S, and B.K.Dey (1981). Phosphate solubilizing microorganisms of lateritic soil. Soil and Fert. 45 (3) : 246.
13. Banik S. and Datta, M. (1988). Effect of inoculation of a phosphate solubilizing phytohormone producing *Bacillus firmus* on the growth and yield of Soybean. (*Glycine max*) grown in acid soils of Nagaland Zon trabl. Microbiol 143: 139-147.
14. Bardiya M.C. and Gaur A.C. (1972). Rock phosphate dissolution by bacteria.

Indian J. Microbiol, 12: 269-71.

15. Bardiya M.C and Gaur A.C (1974) Isolation and screening of micro-organisms dissolving low-grade rock phosphate. *Folia Microbiol.* 19:386-9.
16. Barea J.M Navare.E. and Montoya E. (1976) Production of plant growth regulatators by rhizosphere phosphate solubilizing bacteria. *J.Appl.Bacteriol.* 40:129-34.
17. Bell, M.J. Middleton K.J. and Thompson J.P. (1989). Effect of VAM on growth and P and Zn nutrition of peanut in an Oxisol from subtropical Australia PL. and Soil: 49-57
18. Brown J.C. (1961) *Adv. Agron.* 13:329-369.
19. Brown M.E (1974) Seed and root bacterization *Ann. Rev. phytopathol.* 12:181-98.
20. Chakravati S.N. (1964) Availability of soil and fertilizer phosphates to plants. *Sci.& Cult.* 30:475-84.
21. (1982). Datta, N. Banik, S. and Gupte R.K. (1982) Studies on the efficiency of phytohormone producing phosphate solubilizing *Bacillus firmus* in augmenting paddy yield in acid soils of Nagaland (India) *Pl. Soil* 69:365-374.
22. Dean L.A. and Rubins R.J. (1946). Anion exchange in soils I. Exchangeable

phosphorus and the anion exchange capacity Soil Sci 58:377-87.

23. DeLeo, P. and Sacher, J.A. (1970) Plant physiol, 46(2): 208-211.
24. DeMooy & Reseek (1966). Nodulation responses of soybeans to added phosphorus, potassium and calcium salts. Agron J. 58: 275-280.
25. De Mooy et al (1975). Mineral nutrition, in Soybeans Improvement, production and uses. B.F.Celwell. Agronomy 16: 207-352. American Society of Agronomy.
26. Dhingra K.K., Sekhon H.S., Sandhu P.S. Bhandori S.C. (1988). Phosphorus rhizobium interaction studies on biological nitrogen fixation and yield of lentil. J.Agric Sci. Camb. 110: 141-144.
27. Dhir R.P. (1956). Phosphorus status of Major Indian Soils. Thesis Assoc IARI New Delhi.
28. Dhir N.P. (1977). Desertification and its control. ICAR Monograph New Delhi.P.102.
29. El-Din, S.M.S.B. and Baber, M.S.M. (1983) Effect of phosphate dissolving bacteria on P-uptake by barley plants grown in a salt affected carcerous soil. Zeitschrift fur pflanzenrnal hruna und Bodenkunde. 146:545-550.
30. Evans J. (1982) Internat. Chickpea News letter, 6:23.

31. Fiske, C.H.& Subbarao.Y (1924) J.B.C. 66: 375.
32. Gates CT and Wilson J.R. 1974. The interaction of nitrogen and phosphorus on growth, nutrient status and nodulation of *Stylosanthes humilis* H.B.K. (*Townsville stylo*) Plant and soil 41: 325-335.
33. Gaur, A.C. (1985). Phosphate solubilizing microorganisms and their role in plant growth and crop yield. Proc. Nat. Symposium on Soil Biology. Hissar, 125-38.
34. Gaur, A.C. Mathur R.S. and Sadaivam K.V. (1980). Effect of organic materials and phosphate dissolving cultures on the yield of wheat and green gram. Indian.J.Agron. 25 (3): 301-3
35. Gaur A.C. and Ostwal K.P. (1972). Influence of phosphate dissolving bacilli on yield and phosphate uptake of wheat crop. Indian J.Expt. Biol 10: 393-4
36. Gaur, A.C. and Singh R. (1982). Integrated nutrient supply. Fertilizer News, 27:87-98.
37. Gaur, A.C. and Gaiind, S. (1983). Microbial Solubilization of phosphates with particular reference to iron and aluminium phosphate Sci. cult. 49: 110-12.
38. Gerretsen F.C. (1948). The influence of micro-organisms on the phosphorus uptake by the plant. Pl. Soil 1:51-81.

39. Gill M.A. Ali N and Nayyar M.M. (1985). Relative effect of phosphorus combined with potash and *Rhizobium phaseoli* on the yield of *Vigna aurea* (mung) J.Agric. Res 23: 279-282.
40. Gunawardena S.F.B.N., Danso S.K.A. and Zapata F. (1992). Phosphorus requirements and nitrogen accumulation by three mungbean (*Vigna radiata* L.Welizek) Cultivers. Pl and Soil 147: 267-274.
41. Gunawardena & F.B.N. Danso S.K.A. and Zapata, F. (1993). Phosphorus requirement & sources of nitrogen in three soybean genotypes. Bragg, nts 382. and Chippenia. Plant and Soil, 151: 1-9.
42. Hart A.L. (1989) Nodule phosphorus and nodule activity in white clover. N.Z.J. Agric Res. 32: 145-149.
43. Hawk P.B., Oser B.L. and Summerson, W.H. (1948). Practical physiological chemistry. Pub. The Blikiston Company, U.S.A.
44. Hemwall J.B. (1957) The fixation of phosphorus by soils Adv. Agron. 9:95-112.
45. Israel, D W (1985) Investigation of the role of phosphorus in symbiotic dinitrogen fixation. Plant physiol. 84:835-840
46. Jakobsen, I (1985) The role of phosphorus in nitrogen fixation by young pea plants (*psium sativum*) physiol. plant 63:190-196

47. Jhingram I.C. and Chaudhari R.I. (1977). Indigenous rock phosphate-current status and future plans Fert-News 22: 56-62.
48. Jordan. D.G. and Garrard E.H. (1951). Studies on the legume root nodule bacteria. I. Detection of effective and ineffective strains. Can J.Bota. 29: 360-72.
49. Kavimadan and Gaur (1971). Effect of seed inoculation with *Pseudomonas* Sp. on phosphate uptake and yield of maize. Curr Sci, 40:431-40.
50. Khan,S., Zada, K., Wadan, D., Gul, F, Khan M. (1993). Growth and yield potential of groundnut in relation to phosphorus rates and frequency of irrigation. Sarhad J.of Agric. 9(6); 599-603.
51. Kucey R.M.N. (1983). Phosphate solubilizing bacteria and fungi in various cultivated virgin Alberta soils. Can. J.Soil Sci. 63: 671-678.
52. Kucey, R.M.N. (1988). Effect of *Penicillium bilagi* on the solubility and uptake of P and micronutrients from soil by wheat. Can .J. Soil Sci. 68: 261-270.
53. Kucey R.M.N. and Legget M.E. (1989). Increased yields and phosphorus uptake by wester canola (*Brassica napus* L.) inoculated with a phosphate solubilizing isolate of *Penicillium bilagi*. Can.J.Soil.Sci., 69: 425-432.
54. Kundu B.S. and Gaur A.C. (1980.b). Effect of phosphobacteria on yield and phosphate uptake by potato crop Curr.Sci 48: 159-61.

55. Kundu, B.S. and Gaur A.C. (1984). Rice response to inoculation with N₂ fixing and P-Solubilizing microorganisms. *Plant and Soil* 79:227-34.
56. Languth R.P, Brautingam G.F.Jr. and Loveless L.E. (1957). A soil column study to compare the chemical availability and movement of phosphates from liquid and dry fertilizers. *Soil Sci. Soc. Amer. Proc.*21:416-19.
57. Lehri, L.K.and Mehrotra, C.C.- (1968). Use of bacterial fertilizers in crop production. *Curr. Sci.* 37 (17): 494.
58. Lu K.C., Gilmour C.M, Zagallo A.C., and Bollen W.B. (1958) effect of gibberelic acid on soil micro-organisms. *Nature* 18:189-90.
- 59.. Li, S.C. (1981). Studies on phospholite decomposing microorganisms *J.Soil. Sci.* 5: 33-35.
60. Mandal L.N, and Khan S.K, (1972) Release of phosphorus from insoluble phosphatic materials in acidic lowland rice soils. *J.Indian Soc. Soil. Sci.* 20:19-25
61. Mc Lachlan K.D. (1980). *Aust. J.Agric Res.* 31: 429-440.
62. Medina De Wernali P. (1968) Solubilization of mineral phosphate by micro-organisms in representative soils of the climatic zones of Chile:In progress in soil biodynamics and soil productivity. *Palloti. Santa Maria. Brazil* 93-96.
63. Menkina R.A. (1963). Bacterial fertilizers and their importance for agricultural

- plants. Mikrobiologia 33: 352-58.
64. Mischustin E.N. and Naumova A.N. (1962). Bacterial fertilizers their effectiveness and mode of action. Mikrobiologia 31: 543-56.
 65. Mohod, S.P., Gupta D.N. and Chavan, A.S. (1989) Enhancement of phosphate availability and phosphorus uptake in rice by phosphate solubilizing culture. J.Maharashtra Agric. Univ 14: 178-181.
 66. Muromtsev. G.S (1957) Some methods for studying the dissolution of calcium phosphates by micro-organisms. Mikrobiologiya. 26: 183-89
 67. Narisan, Varsha, Jugnu Thakkar and M.H.Patel (1993). Solubilization of natural rock phosphates by *Asperigillus awamori* (6 strains).
 68. Nair, K.G., Ramaswami, P.P. and Perumal R. (1971) Studies on the causes of poor nodulation in groundnut is soils, of Tamilnadu. Madras agric. J.58;5-8.
 69. Ogata S. Adu Guyamti J. and Fujita K. (1988). Effect of phosphorus and pH on dry matter production, dinitrogen fixation and critical phosphorus concentration in pigeon pea (*Cajanus Cajan.* (L) Mollsp). Soil Sci. Plant Nutr. 34, 55-64.
 70. O'Hara G.W. Boonkerd, N. and Dilworth M.J. (1988). Mineral constraints to nitrogen fixation Plant and Soil 108. 93-110.

71. Okruszko et al (1962). Okruszko, N.Warren, G.F. and Wilcx C.R. Influence of Calcium on phosphorus availability in rock soils. Proc. Soil. Sci. Soc. Amer. 26: 68-71.
72. Olofintoye J.A. (1986). Cowpea (*Vigna unguiculata* I. Walp) Response to different levels of phosphorus and nitrogen in Guinea Savanna of Nigeria Phil. Agr. 69: 411-418.
73. Pereira P.A.A. and Bliss F.A. (1987). Nitrogen fixation and plant growth of common bean. (*Phaseolus vulgaris* L.) at different levels of phosphorus availability. Plant and soil 104:79-84.
74. Peterson, G.L. (1978). A simplified method of analysis of inorganic phosphate in the presence of interfering substances. Anal. Biochem 84:164-172.
75. Pierre (1938). The phosphorus cycle and soil fertility J.Amer. Soc. Agron 40:1-14.
76. Pikovskaya R.I. (1948). Mobilization of phosphorus in soil in connection with vital activity of some microbial species. Mikrobiologiya 17: 362-70.
77. Prabhakar and Saraf (1990) Prabhakar M.and Saraf, C.S. Dry matter accumulation and distribution in chick pea as influenced by genotype, P. Source. and irrigation level. Indian J.Agric. Sci-60: 204-206.
78. Rachewad S.N. Rant R.S. Maleshwar G.U. and Hasnabade A.R. (1991). Effect of phosphate solubilizing biofertilizer on phosphorus utilization by

maize. Ann.Plant Physiol 5: 177-180.

79. Rachewad, S.N., Raut, R.S., Maleswar, G.C. and Ganure C.K. (1992). Effects of phosphate solubilizing biofertilizer on biomass production and uptake of phosphorus by sunflower. J.Maharashtra Agric. Univ., 17: 480-481.
80. Raheja R.C, (1966) Phosphate in crop production. In soil productivity and crop growth. Asia Pub. House. 152-204.
81. Ray & Houdhari S.P. and Datta N.P. (1964). Phosphorus and potassium status of Indian soils. Indian Coun. Agric. Res. Rev. Ser.No.36.:1-14.
82. Reinsvold R.J. and Pope P.E. (1987) Combined effects of soil nitrogen and phosphorus on nodulation and growth of *Robinia pseudoacacia*. Can.J.For. Res. 17:964-969.
83. Sackett V.C., Patten A.J. and Brown C.W.(1908) the solvent action of soil bacteria upon the phosphates of raw bone meal and natural rock phosphate. Zbit fur Bant. 28: 688.
84. Sahu M.P, and Singh H.G,(1987) J.Agric. Sci.Camb. 109:73-77.
85. Sahu M.P., Sharma D.D. and Jain G.L. (1988). Phosphorus Copper interaction in the incidence of chlorosis in garden peas (*Pisum sativum*). on calcareous soil. Pl and Soil 108: 291-293.

86. Salih, H.M. Yahya, A.I. Abdul Rahem, A.M. and Munam, B.H. (1989). Availability of phosphorus in calcareous soil treated with rock phosphate or superphosphate as affected by phosphate dissolving fungi. *Plant Soil*. 120:181-85.
87. Sanginga M.Danso SKA and Bowen G.D. (1989). Nodulation and growth response of *Alloscasuarina* and *Casuarina* species to phosphorus fertilization. *Plant and Soil* 118: 125-132.
88. Sattar M.A. and Gaur A.C. (1989). Effect of VAM and phosphate dissolving micro-organisms on the yield and phosphate uptake of lentil (*Lens esculenta* Moench) *Thai. Jour. Agric. Sci.* 22: 129-36.
89. Sattar M.A, and Gaur A.C, (1987) Production of auxins and Gibberelins by phosphate solubilizing micro-organisms. *Zbl. Microbiol.* 142:393-5.
90. Sharma J.P, and Singh M. (1971) Phosphobacterin culture and the efficiency of phosphatic fertilizers on the yield of maize. *Indian J.Agron.* 16(4):422-424.
91. Singh, H.P. Pareek R.P. and Singh T.A.(1971) Solubilization of rock phosphate by solubilizer in broth. *Curr. Sci.* 53:1212-13.
92. Smalli V.T, (1958) The effect of rhizosphere bacteria on the growth and productivity of wheat *akad Nauk. Ukrain . SSR.Kiev.* 193-9.
93. Smith J.D. (1949). The concentration and distribution of haemoglobin in the root nodules of leguminous plants. *Biochem. J.* 44: 585-91.

94. Smith J.H., Allison F.E. and Soulider D.A.(1969) Evaluation of phosphobacteria as a soil inoculant. Soil Sci. Soc. Am Proc.,26: 109-111. (increase in yield of tomato) due to phosphobacterial inoculation.
95. Sprent J.I. and Mindin F.R. (1983). Environmental effects on physiology of nodulation and nitrogen fixation. In temperate legumes. Edn.D.G.Jones and D.R. Davies pp. 269-317. Pitment Advanced Publishing programme, London.
96. Sperber J.I. (1958a) Solubilization of apatite by soil micro-organisms producing organic acids. Aust. J. Agric. Res. 9:782-7.Pitman Adv. Pub. Prg. London.
97. Sprent J.I, and Minchin F.R, (1983) Environmental effects on physiology of nodulation and nitrogen fixation. In temperate Legumes. Eds. D.G.Jones and D.R.Davies pp.269-317.
98. Stalstorm V.A. (1903). Beitrag Zur Kennturs der Ein-Wisking steriler and in Garung bofindlicker organisier stroffe and dillouschkeit der phosphorsen des tricalcium phosphate Zbl. Bakt. 11: 724-32.
99. Stefan.V Anitia.N, and Boti.D. (1961) The assimilation of soil phosphorus by tobacco as affected by the supply of mineral nutrients and by application of phosphobacterin as a bacterial fertilizer. Gent. Expt. Ingras. Bact. Lucroristint. 3:171-9.
100. Sundara W.V.B. & Venkararaman G.S. (1971). Soil inoculants -bacteria

and algae In. Handbook of manures and fertilizers. ICAR Publication New Delhi.P.P. 222-252.

101. Sun, J.S., Simpson, R.J., Sands, R (1992) Nitrogenase activity of two genotypes of *Acacia mangium* as affect by phosphorus nutrition. Plant and Soil, 144: 51-58.
102. Szember A. (1961). Influence on plant growth of the breakdown of organic phosphorous compound by microorganisms Pl. Soil.13: 146-158.
Tardieux - Roche A and Tardieux P. (1970). Biosynthesis of condensed phosphates by soil microflora and its part in plant nutrition. Ann. Agron. 21:305-14
103. Taha S.M. Mahmoud S.A.Z. El Damity A.T. and Alod. El Hafez A.M. (1969). Activity of phosphate dissolving bacteria in Egyptian Soil. Plant and Soil 31:149-60.
105. Terry N. and Ulrich A. (1973). Effects of phosphorous deficiency on the photosynthesis and respiration of leaves of sugar beet. Plant Physiol 51. 43-47.
106. Thind S.S. Rishi A.K. and Soswami M.N. (1990). Utilization of applied phosphorus by green gram. (*Vigna radiata* L.) Bengal gram (*Cicer arietinum* L.) and cowpea (*Vigna unguiculata* L.) in soild of Delhi. J.Hud Agonic Biol 19:152-156.
107. Tisdale S.L. & Nelson, W.L. (1958). Soil fertility and fertilizers. The

Macmillan Company New York 67-68.

108. Tiwari, V.N., Lehri L.K. and Pathak, A.M. (1989). Effect of inoculating crops with phosphorus microbes Eptl. Agric. 25 47-50.
109. Toth, S.J. Prince, A.L., Wallace, A. and Mikkelsen D.S. (1948). Rapid qualitative determination of 8 mineral elements in plant tissues by systematic procedure involving use of a flame photometer. Soil Sci., 66: 459-466.
110. Vidya shekharan, P Balaram.K.Deiveegu and Vishwanathan G (1973). Phosphate dissolving activity of *A. awamori*. Ind. J. Microbiol. 13: 51-53.
111. Venkateshwaralu B., Rao, A.V. and Raina P. (1984). Evaluation of phosphorus solubilization by microorganisms isolated from arid soils. J. Indian Soc. Soil sci, 32: 273-277.
112. Wani P.V., More B.B. and Patil, P.L. (1978) Effect of seed inoculation with some phosphorus solubilizing microorganisms on the phosphate uptake and yield of gram. J. Maharashtra Agric. Univ 3: 271-72.
113. Wan Othman, W.M, Lie T.A, Mannetje.L, and Wassink G.Y. (1991). Low level phosphorus supply affecting nodulation, nitrogen fixation and growth of cowpea (*Vigna unguiculata L Walp*) Plant and soil 135: 67-74.