30/4 - 2010/RTI/IISS

To
Public Information Officer (PIO)
Indian Institute of Soil Science,
Nabibagh, Berasia Road
Bhopal -462038

Application for seeking Information under the Right to Information Act 2005

Part I:

1	Name of the Applicant	Prof. Seshu Lavania
2.	Date of Birth	26.05.1958
3.	Gender : Male / Female	Female
4.	Father's Full name	(Late) Prof. YS Murty
6.	Present address	4/221, Vivek Khand Gomti Nagar Lucknow 226 010 Phone : 0522-2392162

Office address:
Department of Botany, University of Lucknow, Lucknow 226 007

Address for correspondence: **4/221, Vivek Khand, Gomti Nagar**
Lucknow - 226010

Part II:

A. Specify the particulars of the information sought for:

This application pertains to the implementation of the "All India Coordinated Research Project (AICRP) on Micronutrients" of ICAR being executed at the Department of Botany, University of Lucknow, Lucknow. The said AICRP at Lucknow University (LU) is being coordinated by the Indian Institute of Soil Science, Bhopal with Dr. MV Singh of IISS, Bhopal is the Project Coordinator.

In this connection I seek the following information under RTI Act 2005

1. Kindly provide the information on the amount of the total budget allocated to the AICRP at LU during Xth five year plan (Xth FYP), and the actual amount utilized during the plan period.

2. Kindly provide information on the totat number of research papers (full papers only -- abstracts not to be included) published during the last ten years (2001-2010) that are authored by the AICRP project staff at LU with due acknowledgement to AICRP.

3. Kindly provide bibliographic details of all the papers (including the names of all the authors, year of publication, title of the paper and the name of the journal, volume and page number) published during the Xth FYP that are authored by the AICRP project staff at LU.

TOP- PRIORITY RTI MATTER

Please provide the information requested by the Applicant under RTI.
14-9-10

14/9/10

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Dr. Blaise Desouza ARS
Principal Scientist & PIO

By Speed Post
Top- Priority RTI Matter

25 September 2010

To
Prof. Seshu Lavania
4/221, Vivek Khand
Gomti Nagar
Lucknow 226 010

Dear Madam:

(Sub: Your Application seeking Info under RTI)

This is in respect to the information sought under RTI dt. 09-09-2010. The information furnished by Dr. M. V. Singh, PC (Micronutrients), IISS, duly endorsed, is enclosed for your kind perusal.

Yours faithfully,

(Blaise Desouza)

Encl:
Reply pages (Total 8 pages) 2/2 (Reply to comments), 2/2 (Lucknow centre budget) and 4/4 (List of Publications, Lucknow centre)

All India Coordinated Scheme of Micro- and Secondary- Nutrients and Pollutant Elements in Soils and Plants
Indian Institute of Soil Science, Nabibagh, Bhopal 462038

Reply of RTI From Dr. Seshu Lavania

Detail point-wise reply in response to RTI act 2005 request from Dr. Seshu Lavania D/O Professor YS Murty, 4/221, Vivek Khand, Gomati Nagar, Lucknow 226 010, working at Department of Botany, University of Lucknow, Lucknow- 226 007 is given below:

1. **Kindly provide the information on the amount of the total budget allocated to the AICRP at LU during X plan (FYP) and actual amount utilized during the plan period.**

Please see annexure I

2. **Kindly provide information on the total number of research papers (full papers only abstract not be included) published during the last 10 yrs (2001-10) that are authored by the AICRP project staff at LU with due acknowledgement to AICRP.**

Please see annexure II

3. **Kindly provide bibliographic details of all the papers (Including the name of all the authors, years of publication, title of paper and name of the journal, volume and page number) published during X th five year plan by the AICRP project staff at Lucknow university.**

Please see annexure II

4. **Kindly provide bibliographic details of all the papers (Including the name of all the authors, years of publication, title of paper and name of the journal, volume and page number) published during XI th five year plan by the AICRP project staff at Lucknow university.**

Please see annexure II

5. **Kindly provide information on technology developed/ technology licensed/ patent filed/ patent sealed, based on work executed by the AICRP Micronutrients staff at LU during X plan.**

Please see annexure II

- Delineation of micronutrient deficient area and prepared (4) maps for zinc, copper, iron, manganese .
- Delineated five districts for reassessment of soil fertility.
- Critical limits of most of the cereals, oilseeds and vegetable crops have been established.
- Bulletin on sulphur deficiency in oilseed has been published

- Bulletin on micronutrient deficiency symptoms has been made available for better diagnosis.
- Toxicity of heavy metals have been characterized in different crops.
- Information on biochemical changed due to micronutrient has been published.
- No patent/ licensed / technology have been filed//commercialized.

6. **Kindly provide information on the total budget sanctioned and actual utilization along with breakup under various heads in the said AICRP on Micronutrients at Lucknow University during X th Five Year Plan.**

Please see annexure I

(M.V.Singh)

PC, AICRP Micronutrients

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Annexure-I

ICAR-AICRP
Lucknow Centre

Budget of X and XI Plan

Financial year	Budget Required	Grant Received	Fund Allotted	Expenditure	Balance Closing
2002-2003	17,42,580.00	**13,12,000.00** +4,17,315.73 **17,29,315.73**	13,48,000.00	15,38,906.00	(+) 1,90,409.73
2003-2004	16,38,678.00	**22,83,000.00** +1,90,409.73 **24,73,409.73**	22,85,000.00	21,28,409.00	(+) 3,45,000.73
2004-2005	20,86,067.00	**21,19,000.00** +3,45,000.73 **24,64,000.73**	21,19,000.00	24,12,165.60	(+) 51,835.13
2005-2006	23,94,600.00	**24,86,000.00** + 51,835.13 **25,37,835.13**	24,86,000.00	22,16,934.24	(+) 3,20,900.89
2006-2007	24,65,149.00	**13,43,000.00** +3,20,900.89 **16,63,900.89**	25,45,000.00	20,72,066.36	(-) 4,08,165.47
2007-2008	26,71,421.00	3,67,000.00 10,00,000.00 6,40,000.00 3,00,000.00 23,07,000.00 -4,08,165.47 **18,98,834.53**	17,50,000.00	21,77,383.00	(-) 2,78,548.47
2008-2009	27,66,203.00	4,00,000.00 4,00,000.00 5,00,000.00 10,00,000.00 5,30,000.00 **28,30,000.00** -2,78,548.47 **25,51,451.53**	26,35,000.00	27,59,836.00	(-) 2,08,384.47
2009-2010	31,01,232.00	6,00,000.00 7,00,000.00 10,00,000.00 **23,00,000.00** -2,08,384.47 **20,91,615.53**	29,10,000.00	24,14,596.46	(-) 3,22,980.93

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Breakup of X and XI Plan under various Heads

X Plan

Year	Salary & Allowances	Contingency	T.A.	Total (Rs.)
2002-2003	Record not available			15,38,906.00
2003-2004	17,88,756.00	3,22,519.00	17,134.00	21,28,409.00
2004-2005	18,00,943.00	5,93,168.60	18,054.00	24,12,165.60
2005-2006	18,43,757.00	3,60,977.24	12,200.00	22,16,934.24
2006-2007	18,97,343.00	1,59,428.20	15,295.16	20,72,066.36
			Total	**1,03,68,481,20**
XI Plan				
2007-2008	19,79,604.00	1,80,761.00	17,018.00	21,77,383.00
2008-2009	23,61,607.00	3,90,363.00	7,866.00	27,59,836.00
2009-2010	20,86,980.00	3,06,029.46	21,587.00	24,14,596.46
			Total	**73,51,815.46**
			Grand Total	**1,77,20,296.66**

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7. Chatterjee, J . and Chatterjee, C. 2003 Management of phytotoxicity of cobalt in tomato by chemical measures. **Plant Science**, 164 : 793-801.

8. Gopal, R., Dube, B.K., Sinha, Pratima and Chatterjee, C. 2003. Cobalt toxicity effects on growth and metabolism of tomato. **Comm. Soil Sci. and Plant Anal.** 34(5&6): 619-628.

9. Sinha, Pratima, Dube, B.K. and Chatterjee, C. 2003. Phosphorus stress alters boron metabolism of mustard. **Comm. Soil Sci. and Plant Anal.** 34 (3 & 4): 315-326.

2004

10. Dube, B.K., Sinha, Pratima, Gopal, Rajeev and Chatterjee, C. 2004. Chromium phytotoxicity alters metabolism in radish. **J. Veg. Crop Prod.** 19(2) : 61-71.

11. Nautiyal, N. and Chatterjee, C. 2004. Molybdenum stress induced changes in growth and yield of chickpea. **J. Plant Nutr.** 27 (1) : 173-181.

12. Dube, B.K., Sinha, Pratima and Chatterjee, C. 2004.Crop plants as biological tool for assessing and monitoring agricultural lands inundated with sewage and sludge. **Bull. Environ. Contam. Toxicol.** 72 :429-436.

13. Chatterjee, C., Dube, B.K., Sinha, Pratima and Srivastava, Parul 2004. Detrimental effects of lead phytoxicity on growth, yield and metabolism of rice. **Comm. Soil Sci. and Plant Anal.** 35(1 & 2) : 255-265.

2005

14. Chatterjee, C. and Dube, B.K. 2005. Impact of pollutant elements on vegetables growing in sewage- sludge treated soils. **J. Plant Nutr.**28 (10): 1822-1820

15. Sinha, Pratima, Chatterjee, C., and Dube, B.K., 2005 Amelioration of chromium phytotoxicity in spinach by withdrawal of chromium or iron application through different modes. **Plant Science** 169: 641-646

16. Chatterjee, C., Sinha, Pratima and Dube, B.K., 2005. Zinc stress in mustard as altered by sulphur deficiency. **J. Plant Nutr.** 28:683-690.

17. Chatterjee, C., Sinha, Pratima and Dube, B.K., 2005. Biochemical changes, yield and quality of gram under boron stress. **Comm. Soil Sci. and Plant Anal.** 36: 1763-1771.

18. Nautiyal, N., Singh, Soni and Chatterjee, C. 2005. Seed reserves of chickpea in relation to molybdenum supply. **J. Sci. Food Agric.** 85 : 860-864.

19. Chatterjee,J. and Chatterjee, C.2005. Deterioration of fruit quality of tomato by excess cobalt and its amelioration. **Comm. Soil Sci. and Plant Anal.** 36 :1931-1945.

Annex -II

AICRP Micronutrients : List of Publication by Lucknow Centre

INTERNATIONAL

2001

52. Chatterjee, C., and Nautiyal, N. 2001. Variation in calcium levels leads to changes in the copper metabolism in barley. **Soil Sci. Plant Nutr.** 47(1) : 9-16.

51. Chatterjee, C. and Nautiyal, N. 2001. Molybdenum stress affects viability and vigour of wheat seeds. **Journal of Plant Nutr.** 24(9): 1377-1386.

50. Jain, R., Nautiyal, N. and Chatterjee, C. 2001. Effect of sulphur on sugarcane growth, metabolism and yield attributes at variable nitrogen levels. **Sugarcane International** 1 : 7-10.

49. Khurana, N. and Chatterjee, C. 2001. Influence of variable zinc on yield, oil content and physiology of sunflower. **Communications in Soil Sci. and Plant Analysis.** 32 : (19 and 20) : 323-330.

2002

1. Chatterjee, J. and Chatterjee, C. 2002. Amelioration of phytotoxicity of cobalt by high phosphorus and its withdrawal in tomato. **J. Plant Nutr.** 25 (12) : 2731-2745.

2. Nautiyal, N. and Chatterjee, C. 2002. Copper-manganese interaction in cauliflower. **J. Plant Nutr.** 25(8) : 1701-1709.

3. Khurana, N. and Chatterjee, C. 2002. Low sulphur alters boron metabolism of mustard. **J. Plant Nutr.** 25(3) : 679-687.

4. Chatterjee, C. Dube, B.K., and Sinha Pratima. 2002. Response of sugarcane grown on alluvial soils of Uttar Pradesh. **International Conference on Managing Natural Resources for Sustainable Agricultural Production in the 21st Century**. Vol.4: 52-54

5. Dube, B.K., Chatterjee, C. and Sinha Pratima. 2002. Micronutrient status in wheat – rice growing soils of central Uttar Predesh. **International Conference on Managing Natural Resources for Sustainable Agricultural Production in the 21st Century**. Vol.4: 57-60

2003

6. Dube, B.K., Tiwari, K. , Chatterjee, J. and Chatterjee, C. Chromium alters uptake and translocation of certain nutrients in citrullus. **Chemosphere** 53:1147-1153.

31. B.K. Dube, Pratima Sinha, K. Shukla, C. Chatterjee, V.K. Pandey and .D. Rai 2009. Involvement of excess cadmium on oxidative stress and other physiological parameters of eggplant. **Journal of Plant Nutrition**, 32: 996-1004.

32. B.K. Dube, Pratima Sinha and C. Chatterjee 2009. Assessment of disturbances in growth and physiology of carrot caused by chromium stress. **Journal of Plant Nutrition**, 32: 479-488.

33. Gitanjali, Bhakuni, B.K. Dube, Pratima Sinha and C. Chatterjee 2009. Copper stress affects metabolism and reproductive yield of chickpea. **Journal of Plant Nutrition**, 32: 703-711.

34. Rajeev Gopal and Rajni Shukla 2009. Excess nickel altered growth, metabolism and uptake of certain nutrients in potato. **Journal of Plant Nutrition**, 32: 1005-1014.

NATIONAL

2001

70. Dube, B.K., Sinha, P and Chatterjee, C. 2001. Changes in yield, metabolism and fruit quality of chilli by low manganese. **Haryana J. Hort. Sci.** 30 (3 & 4) : 262-264.

69. Khurana, N. and Chatterjee, C. 2001. Variable copper and bean metabolism. **J.I.B.S.** 80.

68. Shaikh, T., Dube, B.K., Sinha, P. and Chatterjee, C. 2001. Growth, yield, metabolism and cobalt, cadmium uptake by brinjal. **J. Environ. Poll.** 8 : 159-164.

67. Sinha, P., Dube, B.K. and Chatterjee, C. 2001. Sulphur deficiency effects on metabolism and seed quality of maize and recovery therefrom. **Indian J. of Agric. Sci.** 71 (4) : 267-270.

66. Dube, B.K., Sinha, P and Chatterjee, C. 2001. Relative susceptibility of black gram genotypes to manganese deficiency. **Indian J. Plant Physiol.** Vol. 6 No. 1 pp. 61-66.

65. Khurana, N. and Chatterjee, C. 2001. Variable manganese, yield and grain quality of pearlmillet. **Indian J. of Sustainable Use of Agric.** Vol. 1, No. 1 and 2, 52-57.

64. Dube, B.K., Sharma, C.P. and Chatterjee, C. 2001. Response of pigeonpea to applied zinc in ustifluvents soils of Western Uttar Pradesh. **J. Indian Soc. Soil Sci.** 49(3) :.

63. Gopal, R., Dube, B.K., Sinha, P. and Chatterjee, C. 2001. Uptake and accumulation of nickel by two rice genotypes. **J. Environ. Poll.** 8(3) : 261-265.

2006

20. Chatterjee, C., Sinha, Pratima., Dube, B.K. and Gopal, Rajeev. 2006. Excess copper induced oxidative damages and changes in radish physiology. **Commun. Soil Sci. Plant Anal.** 37 : 2069-2076.

21. Khurana, Neena, Singh, M.V. and Chatterjee, C. 2006. Copper stress alters physiology and deteriorates seed quality of rapeseed. **J. Plant Nutr.** 29(1) : 93-101.

22. Chatterjee, C., Gopal Rajeev and Dube, B.K. 2006. Impact of iron stress on biomass, yield, metabolism and quality of potato (*Solanum tuberosum* L.). **Scientia Horticulturae,** 108(1) : 1-6.

23. Chatterjee, C., Gopal, Rajeev and Dube, B.K.. 2006. Physiologcal and biochemical responses of frenchbean to excess cobalt. **J. Plant Nutr.** 29(1) : 127-136.

24. Sinha, Pratima, Dube, B.K., Srivastava, Parul and Chatterjee, C. 2006. Alteration in uptake and translocation of essential nutrients in cabbage by excess lead. **Chemosphere** 65 : 651-656.

25. Sinha, Pratima, Dube B.K and Chatterjee, C. 2006. Manganese stress alters phytotoxic effects of chromium in green gram physiology (*Vigna radiata L.*) cv. PU 19. **Environ. Exp. Bot.** 57 : 131-138.

2007

26. Neena Khurana and C. Chatterjee 2007. Zinc stress induced changes in biochemical parameters and oil content of mustard. **Communication of Soil and Plant Analysis** 38: 751.761.

27. Sunil Gupta, Rajeev Gopal and M.V. Singh 2007. Variable Ca affects growth and metabolism of bittergourd grown in sand culture. **Journal of Plant Nutrition** 30: 109-114.

2008

28. Rajeev Gopal and Aqeel H. Rizvi 2008. Excess Lead Alters Growth, Metabolism and Translocation of Certain Nutrients in Radish. **Chemosphere,** 70: 1539-1544.

2009

29.Rajeev Gopal, Aqeel Hasan Rizvi and N. Nautiyal 2009. Chromium alters iron nutrition and water relations of spinach. **Journal of Plant Nutrition (U.S.A.),** 32: 1551-1559.

30. Pratima Sinha, N. Nautiyal, N. Khurana and Sunil Gupta 2009. Development and physiological response of bitter gourd to boron level. **International Journal of Vegetable Sciences,** 15: 303-311.

12. Sinha, Pratima and Chatterjee, C. 2003. Influence of low boron on yield and seed quality of soybean. **Indian J. Agric. Res.** 37(3) : 93-98.

13. Dube, B.K., Sinha, Pratima, Gopal, Rajeev and Chatterjee, C. 2003. Modulation of radish metabolism by zinc physiology. **Indian J. Plant Physiol.** 8(3)302-306.

14. Gopal, Rajeev, Dube, B.K., and Chatterjee, C. 2003. Phytoavalability and toxicity of Co in citrullus. **Poll. Res.** 22(2): 259-264.

15. Khurana, N. and Chatterjee, C. 2003. Impact of copper stress on metabolism and seed quality of pea. **Indian J. Hort.** 60(2) : 167-170

16. Dube, B.K., Sinha, Pratima and Chatterjee, C. 2003. Effect of Zinc on yield and quality of tomato. **Indian J. Hort.** 60(1) : 54-59.

17. Dube, B.K., Pandey, V.N., Sinha, Pratima and Chatterjee, C. 2003. Cadmium phytotoxicity and disturbances in cowpea physiology. **Poll. Res.** 22(2) : 105-111.

2004

18. Dube, B.K., Sinha, Pratima., Srivastava, Parul and Chatterjee, C. 2004. Manoeuvrability of iron and boron stress induced responses in radish (*Raphanus sativus*) by their application. **Indian J. Agric. Sci.** 74(12): 669-672.

2005

19. Sinha, Pratima , Dube, B.K., and Chatterjee, C. 2005. Cadimum phytotoxicity in cabbage. **Indian J. Hort.** 62(4) : 355-358.

20. Dube, B.K., Gopal Rajeev, Sinha, Pratima and Chatterjee, C.2005 Variable tolerance of two genotypes of rice to excess copper. **Indian J. Plant Physiol.** 10(2): 191-195.

22. Khurana, N., Gupta, S. and Chatterjee, C. 2005. Magnesium deficiency induced changes in yield and metabolism of rice. **J. Indian Bot. Soc.** 84 : 130-134.

23. Awasthi, Sapna and Nautiyal, N. 2005. Growth response of fertilized hyacinth bean (*Dolichos lablab* L.) ovules to different culture media. **Indian J. Plant Physiol.** 10 (3) : 211-217.

24. Nautiyal, N. and Srivastava, Rubi. 2005. Abscisic acid modifies boron stress in cultured maize kernels. **Indian J. Plant Physiol.** 10 (2) : 103-107.

2006

25. Gopal, Rajeev, Dube, B.K. and Chatterjee, C. 2006. Impact of manganese stress on potato metabolism. **Indian J. Hort.** 63 : 174-177.

62. Gopal, R., Dube, B.K., Sinha, Pratima. and Chatterjee, C. 2001. Potassium stress changes in cotton metabolism. **Annals of Agric. Res.** Vol. 22 (No. 2) : 253-257.

61. Sinha, P., Dube, B.K., Singh, Neetu and Chatterjee, C. 2001. Boron deficiency and physiological disorders in brinjal. **Indian J. Hort.** 58 (4) : 354-359.

60. Sinha, P., Dube, B.K., and Chatterjee, C. 2001. Boron stress induced changes in cotton. **Annals of Agic. Res.** 22(3) : 365-370.

2002

1. Khurana, N. and Chatterjee, C. 2002. Manganese acquisition efficiency by rice (*Oryza sativa)* genotypes as influenced by low manganese. **Indian J. Agric.Sci.** 72 : 661-664.

2. Sinha, Pratima, Dube, B.K. and Chatterjee, C. 2002. Changes in brinjal physiology by Ca deficiency. **Indian J. Hort.** 59 (4) : 411-415.

3. Khurana, N. and Chatterjee, C. 2002. Effect of zinc on reproductive physiology of pea. **Indian J. Agric. Sci.** 72 (1) : 57-59.

4. Dube, B.K., Khurana, N. and Chatterjee, C. 2002. Yield, physiology and productivity of rice under manganese stress. **Indian J. Plant Physiol.** 7 (4) : 392-395.

5. Dube, B.K., Sinha, Pratima and Chatterjee, C. 2002. Partial reclaimation of nickel phytotoxicity in wheat by liming and organic matter. **Poll. Res.** 21(2) : 101 – 107.

6. Nautiyal, N. and Chatterjee, C. 2002. Iron application ameliorates copper toxicity effects in spinach. **Indian J. Plant Physiol.** 7(2): 198-200

7. Sinha, Pratima., Dube, B.K. and Chatterjee, C. 2002 Influence of boron stress on biomass, yield, metabolism and quality of groundnut. **Indian J. Plant Physiol.** 7(2): 131-134

8. Gopal, Rajeev, Gupta, Soni and Chatterjee , C. 2002. Excess iron and excess nickel affect growth, metabolism and accumulation of nutrients in Radish. **Poll. Res.** 21(3): 343-347.

9. Dube, B.K., Sinha Pratima and Chatterjee,C. 2002 Changes in spinach metabolism by excess cadmium. **Nature Environ. and Poll. Techn.** 1(2) : 225-229.

2003

10. Gopal, Rajeev, and Dube, B.K. 2003. Influence of variable potassium on barley metabolism. **Ann. Agric. Res.** 24(1): 73-77.

11. Gopal, Rajeev, Dube, B.K. Sinha, Pratima and Chatterjee, C.. 2003. Phosphorus sulphur interaction in tomato metabolism. **Indian J. Hort.** 60(3) : 244-250.

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26. Sinha, Pratima, Dube, B.K., Singh, M.V. and Chatterjee, C. 2006. Effect of boron stress on yield, biochemical parameters and quality of tomato. **Indian J. Hort.** 63 : 39-43.

27. Chatterjee, C., Sinha, Pratima, Dube, B.K. and Srivastava, Parul. 2006. Lead phytotoxicity induced damages in growth and metabolism of cabbage. **Indian J. Hort.** 63(4): 393-396.

2007

28. C. Chatterjee, Azaz Fatma, Rizvi, Pratima, Sinha, and B.K. Dube. 2007. Boron stress induced biochemical changes in callus culture of tomato roots. **Journal of Plant Physiology,** 34: 117-122.

29. Neena Khurana and C. Chatterjee 2007. Changes in metabolism, root quality and nutritive character of carrot under copper stress. **Indian Journal of Horticulture** 64: 335-339.

2008

30. Rajeev Gopal, Vivek Giri and N. Nautiyal 2008. Excess copper and manganese alters the growth and vigour of maize seedlings in solution culture. **Indian Journal of Plant Physiology,** 13: 44-49.

31. Rajni Shukla, Rajeev Gopal and C. Chatterjee 2008. Altered levels of Metabolites under the Influence of Excess Nickel in Green gram. **Indian Journal of Plant Physiology**, 13: 203-207.

32. K.K. Tiwari, B.K. Dube, C. Chatterjee and Pratima, Sinha. 2008. Phytotoxic effects of high chromium on oxidative stress and metabolic changes in citrullus. **Indian Journal of Horticulture,** 65: 171-175.

2009

33. Pratima Sinha, Neena Khurana and N. Nautiyal 2009. Boron stress influences economic yield and quality on crop species. **Indian Journal of Plant Physiology**, 14: 200-204.

Reports:

- Progress report for each year was compiled and prepared for official use.
- Bulletin on Sulphur deficiency in oilseed crops" (ed. Chatterjee C, S.Gupta, Khurana, N (1998) has been published .
- Bulletin on micronutrient symptoms has been prepared and submitted to the council

22/9/10
PC (MNS)
NSS, BPL