

TRANSFER OF SCIENTIFIC KNOWLEDGE ON MICRO- NUTRIENTS TO USABLE FIELD PRACTICES

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OUTLINES

- Scientific knowledge available
- Transfer of knowledge (success stories)
- Knowledge gaps
- Future strategies

Impact of zinc deficiency in soil on human health					
Category	No. of People Tested	Mean Zinc Status (ppm)			
		Soil	Plant	Blood	Serums
				Male	Female
Ranga Reddy					
Deficient	18	0.37	18.2	0.49	0.52
Sufficient	44	0.69	26.7	0.55	0.65
East Godavari					
Deficient	16	0.45	13.6	0.84	0.97
Sufficient	44	1.12	25.9	1.08	1.06

CONCLUSIONS

- A considerable scientific knowledge on micronutrients has been generated during the last four decades with respect to:
 - Diagnosis of micronutrient disorders
 - Delineation of micronutrient deficient areas
 - Amelioration of micronutrient deficiency
 - Source, rate and mode of micronutrient application
 - Frequency of micronutrient application
 - Micronutrient efficient crop cultivars

Contd.

CONCLUSIONS

- Awareness about the micronutrient deficiencies has been created. Use of micronutrients is highly profitable.
- The technology for ameliorating micronutrient disorders has been successfully transferred to the end users and is widely used in the country.
- The extent of Zn deficiency, the most common micronutrient problem, has decreased in some states due to continuous use of zinc sulphate by the farmers.

Contd.

CONCLUSIONS

- Multimicronutrient deficiencies in certain areas are emerging. Presently mixtures are mainly used in horticultural, vegetable and plantation crops.
- Blended or fortified fertilizers have not become familiar with the farmers in India as they fail to meet the crop requirement and their injudicious use.
- Use of organic manures and IPNS reduces the micronutrient fertilizer requirements and improves nutrient use efficiency.
- Thirteen straight fertilizers and several multimicronutrient mixtures have been approved in the FCO/state governments. However, strict enforcement for ensuring availability of quality products to the farmers is very much needed.

Research gaps

- Systematic Information on monitoring of micronutrient deficiencies using GIS need to be generated under different agroeco systems.
- Areas where multimicronutrient deficiencies are emerging, responses of crops to multimicronutrient deficiencies need to be studied.
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- New techniques, products and formulations need to be evolved for increasing the micronutrient use efficiency in different cropping systems.

Contd.

Research gaps

- Elaborate studies need to be taken up about the use of organic manures alone and/or in combination with micronutrients.
- Studies on micronutrient disorders and nutritional security in relation to soil-plant-animal-human continuum are to be carried with the collaboration of scientists, from different disciplines.

Contd.

Research gaps

- **International collaboration for advance research and human resource development in the field of micronutrient is needed.**
- **There is also an urgent need to provide liberal support and collaboration from private and public sector.**
- **More emphasis on on-farm research, FLD, training and other extension programmes be given to create awareness for ameliorating hidden hungers in area where the micronutrient application is not practiced.**

Thanks