

Nutrient Expert® – Going Global with Improved Fertiliser Recommendations

By Adrian M. Johnston

Addressing the challenge of making science-based fertiliser recommendations to smallholder farmers throughout Asia and Africa has been a key focus of IPNI staff over the decades. As students of agriculture we all learned about soil testing methods, correlation and interpretation as the key step in this process. However, this entire approach has not been successful on smallholder farms due to access, cost or inadequate timeliness in delivery of results. As a result, some alternative had to be found to address this problem for smallholder farmers in Asia and Africa.

The development of the decision support software, Nutrient Expert®, by IPNI staff came about to address the growing need for science-based fertiliser recommendations for smallholder farmers in Asia and Africa. After almost 8 years of development, verification and application of the software, we have grown in both confidence and understanding of how successful this tool will be in helping meet the needs of small farmers. With software now available for downloading from the web (<http://software.ipni.net>) IPNI is providing a free of charge option for making nutrient recommendations for wheat and maize production in Asia. A rice tool is currently under pre-release large-scale validation phase in Asia. A maize tool for sub-Saharan Africa is close to release, and a wheat tool for North Africa is in development, as are soybean tools for Asia and a cotton tool in South Asia. Work has just recently started to develop a tool for cassava in SE Asia and central Africa.

In the course of research and extension program development in IPNI, one of the key questions always being asked is can this technology or practice be taken to scale? Where might it be applicable within other agricultural systems and IPNI regions of the world? With the success of the Nutrient Expert® program, getting other staff and programs of IPNI interested in adapting the tool to their regions was relatively easy—success was our best selling tool. However, how would such a tool be moved to a more open, public scale allowing the access and use by others?

Having the Nutrient Expert® tools available for downloading from the web is one way of providing open access to all interested stakeholders. Currently we are developing versions that use databases on the web, allowing the tool to be run as a web-based version and enabling easy updating of the available tools. We are also investigating the options for moving the Nutrient Expert® tool to an ICT platform, where agriculture extension and industry workers would be able to access and use the software with a tablet in the farmers field. All of these improvements are being developed in cooperation with the IT industry, where the expertise to succeed in delivery of the technology exists. Finally, IPNI also has to decide when, and if, they are going to release the programming code for Nutrient Expert® to the public. As with all crop production support models, it is likely an improved version is out there once our current technology gets into the hands of others with additional ideas to pursue the continuous improvement we would like to see. *USA*

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New Book on Soil Testing for Balanced Fertilisation: Technology-Application-Problems-Solutions

Edited by Dr. H.L.S. Tandon.

ISBN: 81-85116-69-5. Pp. 170+xiv Fertiliser Development and Consultation Organisation, 204-204A Bhanot Corner, Pamposh Enclave, New Delhi 110048 (India). Price in India ₹600. Outside India US\$60 (inclusive of airmail dispatch). Contact tandonhls@gmail.com

This book is devoted to soil testing as a research-based tool for making fertiliser recommendations and its various aspects ranging from various technologies, their application, problems and possible solutions. The nine chapters deal with subjects ranging from (i) various methodologies for developing soil test-based fertiliser recommendations from conventional approaches to GIS-based tools, (ii) the agro-economical evaluation of soil test based fertiliser recommendations, (iii) special features of soil testing in coordination with plant analysis for horticultural tree crop, (iv) initiatives required for rejuvenating soil testing services, (v) government initiatives and programmes for expanding and strengthening soil testing services, (vi) field level experiences, problems and solutions for making soil testing a more widely usable facility as outlines by a state government and a fertiliser company involved in soil testing for many years, and finally, (vi) an introduction to the various analytical instruments being used or for potential use in modern well equipped, appropriately staffed soil testing laboratories. These topics have been covered by experts drawn from ICAR institutes, agricultural universities, government departments, and the fertiliser industry.

This book is intended for use by a diverse readership who are interested in the optimum, balanced and efficient use of plant nutrients through fertilisers for crop production and maintenance of soil health. Its target readership are persons, organisations or entrepreneurs operating or setting up new soil testing labs. It is also meant for agronomy/farm advisory personnel of the fertiliser industry, students, teachers, researchers in colleges, agriculture/horticultural universities; research stations, ICAR institutes, projects and research centers as well as independent/private institutions. Other potential readers could be officers of the state departments of agriculture/horticulture, rural development training centers, cane managers of sugar mills, plantation managers, and agricultural consultants.

