

## CONTENTS

SUMMARY	1
INTEGRATED MANAGEMENT OF TROPICAL ACID SOILS	
Nitrogen dynamics in soybean-based crop rotations under conventional and zero tillage in Brazil <i>S. Urquiaga, C.P. Jantalia, I. Zotarelli, E.S. Araujo, B.JR. Alves, R.M Boddey, WI. Cabezas, RP. dos Santos, E. Torres</i>	13
Long-term effects of cropping systems and fertilization on crop production~ soil characteristics and nitrogen cycling in the Guinean and Sudanian savannah zones of Burkina Faso (West Africa) <i>B. V. Bado, A. Bationo, F. Lompo, Z. Segda, MP. Cescas, MP. Sedogo</i>	.47
Improving sustainable intensification of cereal-grain legume cropping systems in the savannahs of West Africa: Quantifying residual effects of legumes on maize~ enhancing P mobilization by legumes and studying long-term soil organic matter dynamics ~ <i>J Diels, P. Pypers, I. Van Loon, K Aihou, G. Dercon, B. Vanlauwe, R. Merckx</i>	65
Case studies related to the management of soil acidity and infertility in the West African moist savannah ~ <i>B. Vanlauwe, N. Sanginga, J. Diels, R. Merckx</i>	83
USE OF ACID-TOLERANT AND P-EFFICIENT PLANT GENOTYPES	
Identification and characterization of aluminium-resistant~ phosphorus-efficient plant genotypes adapted to tropical acid soils <i>WJ Horst, D. Eticha, M Kamh, Y. Wang, A.I. Slival do Silva, A. Stass</i>	111
Comparison of the ability of different plant species and com hybrids to access poorly-available soil phosphorus in an Oxisol of the Cerrado region~ Brazil.. .... <i>T. Muraoka, F.C. Alvarez, Villanueva, C. Fernandes, E.J. Corazza</i>	137
Evaluating the response of selected common bean genotypes to the application of phosphate rock products in acid soils of Cuba <i>A. Garcia, G.Hernandez, A. Nuviola, N. Mendez, G. Herrero, J.J. Drevon</i>	147
Phosphorus uptake efficiency of sorghum and rice genotypes as affected by phosphate sources of varying solubility <i>M Lopez, N. Alfonzo, M Espana, E. Cabrera-Bisbal</i>	161
AMELIORATING SOIL ACIDITY AND INFERTILITY OF TROPICAL ACID SOILS	
Liming effect on the agronomic effectiveness of phosphate sources varying in solubility applied to upland rice and soybean grown in an acid Ultisol.. <i>S.H Chien</i>	181
Improving grain yield and nitrogen fixation of common bean grown in an Acrisol from Cuba <i>A. Garcia, G. Hernandez, A. Nuviola, G. Duenas, N. Mendez, V. Toscano, G. Herrero, S. Curbelo, J.I. Reyes</i>	201

Development and testing of a phosphate rock decision support system (PRDSS) for direct application <i>U Singh, S.A. Smalberger, S.H Chien, P.W Wilkens</i>	219
Enhancing the agronomic effectiveness of a low reactive local phosphate rock to improve agricultural productivity in a low P status Oxisol of the Central Cerrado, Brazil <i>T. Muraoka, V.L Franzini, A.R. Trevizam, Fe. Alvarez Villanueva, A.E. Boaretto</i>	239
Improving agricultural productivity in the savannah of Tabasco State, Mexico: I. Management of maize and sorghum production systems <i>J.J. Pena-Cabriales, J.A. Vera-Nunez, L. Herrera-Estrella, F Nieto, S. Salgado-Garcia, D.J. Palma-Lopez, A. Ortiz-Ceballos, L. Pastrana-Aponte, S. Barron-Freyre, o.A. Grageda-Cabrera, E. Fragoso</i>	255
Improving agricultural productivity in the savannah of Tabasco State, Mexico: II. Management of nitrogen- fixing legumes <i>J.J. Pena-Cabriales, J.A. Vera-Nunez, S. Salgado-Garcia, D.J. Palma-Lopez, A. Ortiz-Ceballos, L. E. Lagunes-Espinoza, L. Pastrana-Aponte, S. Barron-Freyre, R. Cardenas, R. Farias-Rodriguez</i>	273
How do cowpea and groundnut improve soil N fertility and yields of succeeding sorghum crop in the Guinean savannah zone of Burkina Faso (West Africa)? <i>B. V. Bado, A. Bationo, MP. Cescas, A. Sawadogo, B. Thio</i>	289
Nitrogen utilization from urea and green manure residues by com grown under no till in Southern Cerrado, Brazil <i>E. E. Silva, T. Muraoka, P. E. O. Trivelin, S. Buzetti</i>	307
Response of promiscuous soybean to rhizobial inoculation and fertilization treatment and their effects on subsequent maize yields in degraded "terre de barre" in Benin : <i>P. Houngnandan</i>	325
Estimating biological nitrogen fixation potential of tropical legumes grown in acid savannah soils ~fVenezuela using ISN-isotopic techniques <i>M Espana, M Lopez, E. Cabrera-Bisbal</i>	339
LIST OF PARTICIPANTS	349
RECENT IAEA PUBLICATIONS ON SOIL AND WATER MANAGEMENT AND CROP NUTRITION	351