

ADVANCES IN INTEGRATED NUTRIENT MANAGEMENT FOR CROP PRODUCTION IN NIGERIA

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ABSTRACT

The work is a review of recent developments in utilization of organic and organomineral fertilizers in Nigeria. Integrated crop nutrition entails combined use of organic and inorganic fertilizers to avoid problems associated with sole use of the two sources. The aim is also to reduce need and cost associated with sole use of either source of plant nutrients. Researches conducted on effectiveness of organomineral fertilizers show the following:

- *Organomineral fertilizers (OMF) gave similar or higher crop yield compared with recommended NPK fertilizer. They also improved nutritional quality and nutrient content and had residual effect than inorganic fertilizer. The OMF also had liming effect.*
- *The OMF reduced need for both organic and inorganic fertilizers which had synergistic effect on each other*
- *The OMF improved soil physical properties compared with inorganic fertilizers as indicated by reduction in bulk density, temperature and conservation of soil moisture.*
- *The OMF improved soil organic matter, nutrient content and increased availability of cations compared with inorganic fertilizer.*
- *Organic wastes that were found to be effective in increasing soil nutrients contents, pH, nutrient uptake by crops and were successfully combined with inorganic fertilizers such as NPK, urea at reduced rates include poultry manure, oil palm bunch ash, cocoa pod ash, kola pod ash and sawdust ash.*
- *The pacesetter and sunshine organic and organomineral fertilizers developed and manufactured in Nigeria have been found to be effective in improving soil fertility, and yield of arable and tree crops.*

There are abundant organic wastes that could be used alone or combined with mineral fertilizers. The presence of organic manures in organomineral fertilizers ensures more residual effect, balanced nutrition and improvement in soil physicochemical properties. The use of two sources has synergistic effect and reduces expenditure on scarce and expensive mineral fertilizers. It is a sustainable approach to ensuring high soil productivity and crop yield.

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