



NEWSFLASH : Fertilizer recovery efficiency of oil palm in sandy regions

January 22, 2014. Penang, Malaysia – As oil palm cultivation expands in marginal lands with lower conservation value, nutrient management becomes a concern for plantations that now have to deal with less fertile soils. While fertilizers are able to provide much-needed nutrients to the crop, it is a major cost for plantations and impacts profitability. Fertilizer recovery efficiency is relatively low in oil palm production systems, partly due to leaching from heavy rainfall, especially in sandy soil regions like Central Kalimantan, Indonesia.

A project started by IPNI in October 2011 in Central Kalimantan together with K+S Kali GmbH and PT Sampoerna Agro Tbk using 4R Nutrient Stewardship based management practices shows promising results. It was found that by increasing the frequency of nutrient application and by combining different nutrients into blends, fertilizer recovery efficiency improved by 10% for N and 18% for K during the first year of the project. Nutrient concentrations in trunk tissue were higher for nitrogen, phosphorus, potassium and magnesium compared to standard estate practice. In estate practice, straight fertilizers are added directly to crops in fewer applications per year per nutrient.

The blending of individual nutrients was done with fertilizers that are compatible; and the resulting blend delivered to the crop in four applications per year. These multi-nutrient fertilizers were easy to blend on-site and provide crops with plant nutrients like nitrogen, phosphorus, potassium, magnesium, sulphur and boron on every application. Applications on-site were also timed based on annual rainfall records, taking care to avoid the rainy season.

These preliminary results suggest that a 4R consistent approach of multi-nutrient fertilizer blends applied several times a year improves the efficiency of nutrient uptake of oil palm grown in sub-optimal sandy regions in the longer term.

This information was presented at the Malaysian Palm Oil Board's International Palm Oil Congress, 19–22 November 2013 (PIPOC 2013), Kuala Lumpur, Malaysia.

For more information, please see the poster at <http://seap.ipni.net/article/SEAP-3097>.

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About IPNI

The International Plant Nutrition Institute (IPNI) is a not-for-profit, science-based organization dedicated to the responsible management of plant nutrition for the benefit of people. Through cooperation and partnerships with respected institutions around the world, IPNI adds its strength to agronomic research, education, demonstrations, training, and other endeavors. Best management practices for nutrient stewardship encourage the concept of 4Rs - applying the right nutrient source, at the right rate, at the right time, and in the right place. To learn more about IPNI, please visit: www.ipni.net

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