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Where Do All The Nutrients Go?

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Of the nutrients supplied as fertilisers to an oil palm plantation, only a small fraction of the N and K are exported in palm oil and kernels. This prompts the question of why continued high inputs are necessary. There are known losses, but an important factor appears to be inefficient recycling of nutrients, particularly after replanting. In this paper, data are summarised on the quantity of nutrients in the old stand, the rate at which the nutrients are released after felling, and the requirements of young palms plus cover crop. The comparison shows a vast excess of nutrients in the old stand, even without including fertilisers and EFB mulch given to the young palms. It is not known what happens to this excess of nutrients after replanting, but there is a risk that much is lost. Possibilities for improving recycling include increasing uptake, by reducing fertiliser and EFB inputs and growing more vigorous cover species, or extending the period of nutrient release by under-planting and by leaving old trunks intact instead of chipping or pulverising. Another option is to transport the old stand residues out of the replant field and use them in place of fertiliser in mature areas. Research on all these aspects would be justified, given the high cost of fertilisers, and the possibility of making considerable savings.

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