



## BANANA AND PLANTAIN (*Musa* spp.) CULTIVAR PREFERENCE, LOCAL PROCESSING TECHNIQUES AND CONSUMPTION PATTERNS IN EASTERN DEMOCRATIC REPUBLIC OF CONGO

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**Abstract-** This cross-sectional study carried out in North Kivu (NK) and South Kivu (SK) of the Eastern Democratic Republic of Congo aimed to identify the most preferred *Musa* cultivars, their processing/cooking methods and *Musa* consumption patterns among rural households. Our results showed that the preferred cooking banana varieties included yellow-pulped AAA-East African Highland bananas [EAHB] 'Nshikazi' (SK) and 'Vulambya' (NK), which were valued for their cooking qualities, large bunches and suitability for production of banana beer. The preferred plantains were orange-pulped and included 'Musheba' (SK) and 'Musilongo' (NK) and were preferred for their short maturation period, large bunches and higher market prices. Over 60% of the households examined had consumed EAHB within 24 hours, whereas <10% had consumed plantains. The most common cooking method was simple boiling of bananas/plantains and main accompaniments include beans and amaranth leaves. Over 69% of surveyed households that had consumed *Musa* products had consumed them boiled. The majority of the households (90%) obtained banana/plantains from their farms, and >55% of households from SK and NK consumed banana products between 2 and 4 times/week. This information will be used to help direct researchers on the *Musa* cultivars that could be further sampled for carotenoid analysis and those found to be rich could be used in the fast-tracking approach to reduce Vitamin A deficiency.

**Keywords-** Banana, plantain, preference, cooking, Democratic Republic of Congo (DRC)

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### Introduction

Plantain and bananas (*Musa* spp.) serve as important food crops in much of Africa. Together they provide over 25% of the carbohydrate needs and 10% of the daily calorie requirements for over 70 million people on the African continent [1]. Production of the plantains and bananas is concentrated in Eastern DRC and ranges between 75,000 and 80,000 tonnes per year, and they rank second in importance after cassava in the Democratic Republic of Congo (DRC) [2]. The majority of cultivated bananas and plantains are triploid varieties belonging to the Eumusa section of the genus *Musa*, family *Musaceae* [3]. These varieties evolved from intra- and inter-specific crosses involving two diploid ancestor species, *M. acuminata* Colla (genome AA) and *M. balbisiana* Colla (genome BB), which originated from Malaysia and India, respectively [4].

Bananas and plantains are one of the main dietary starchy sources [2], apart from this, studies have suggested that some cultivars have high pro-vitamin A carotenoids (pVACs) levels and are capable of providing up to half of the total human daily vitamin A requirement in a single fruit [5,6]. pVACs among cultivars of *Musa* fruits differ more than 200-fold, ranging from 0.23 - 59.56 µg/gdw, with very high levels found in plantains and lower levels in other cooking bananas and commercial dessert types [1]. pVAC levels are linked with orange fruit pulp color, with most dessert bananas having a light colored pulp (cream, ivory) and most plantain cultivars having more yellow-orange colored pulp [1].

Although there is no documentation on the prevalence of vitamin A deficiency (VAD) in Eastern DRC, based on WHO estimates, 61.1% of preschool children in the whole of DRC have VAD. Ac-