



RESEARCH ARTICLE

Response of novel organic liquid fertilizer with micronutrient application on quality of banana cv. Grand Nain

TULSI D. GURJAR¹, S.J. PATIL², DARSHANA B. CHAUDHARI³, BHAKTI PANCHAL⁴, A.K. PANDEY⁵ and HENAXI PATEL⁶

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ABSTRACT

A field experiment was conducted to find out the effect of quality of banana cv. Grand Nain. The foliar application of 1% novel organic liquid fertilizer increased quality parameters like, fruit firmness (4.10 kg/cm²), TSS (21.07 °Brix), non-reducing sugar (9.84 %), total sugar (17.09 %) and minimum acidity (0.166 %). While, foliar application of 2% novel organic liquid fertilizer recorded maximum reducing sugar (7.29%) and shelf life (11.75 days). In case of micronutrient, foliar application of 1.5% Combi – F, Grade – IV micronutrient produced favorable effect on fruit quality in terms of fruit firmness (4.10 kg/cm²), TSS (21.26 °Brix), shelf life (11.96 days) and minimum acidity (0.166%). The maximum reducing sugar (7.41%), non-reducing sugar (9.86%) and total sugar (17.27%) were reported in 2% Combi – F, Grade – IV micronutrient.

Key words: Banana, novel organic liquid fertilizer, micronutrient, quality and shelf life

INTRODUCTION

Banana is the cheapest plentiful and most nourishing of all fruits. It is a premier fruit having great socio-economic significance in India. Indeed many consider the banana to be one of man's first food. While, separating fibres from the banana pseudostem, the liquid available is known as banana

pseudostem sap which contains sufficient amount of essential macro and micro plant nutrients. Hence, there is vast scope to utilize banana pseudostem sap as liquid fertilizer. Apart from direct use of sap as liquid fertilizer, an enrichment process was developed (patented) for preparing Novel Organic Liquid Fertilizer (NOLF) suitable for foliar and soil application by Navsari Agricultural University, Navsari. It was tested in mango, banana, wheat and paddy crops. The NOLF has been prepared using only organic inputs and hence suitable for use in organic farming system as liquid formulation. Organic liquid fertilizer is good source of plant nutrient along with growth promoting substances like cytokinin, GA₃, etc. (Anon., 2014).

However, the use of inorganic fertilizers alone may cause problems for human health and the environment (Arisha and Bradisi, 1999). Long-term studies on various crops indicated that the balanced use of NPK fertilizer could not maintain the higher yields over years because of emergence of secondary and micronutrient deficiencies and deterioration of soil physical properties. Use of organic manures alone cannot fulfill the crop nutrients requirement (Kondapa *et al.*, 2009). Bokhtiar *et al.* (2008) reported that organic manures, when applied with chemical fertilizers gave better yield than individual ones. In recent times, consumers are demanding higher quality and safer food and highly interested in organic products (Ouda and Mahadeen, 2008). Hence there is urgent need to improve organic fertilizers with natural minerals through biological processes. Thus, keeping above facts in view the present investigation was undertaken with objectives such as to see the influences of novel organic liquid fertilizer and micronutrient on quality of banana cv. Grand Nain.

✉ Tulsi D. Gurjar (*Corresponding author)
tulsigurjar@yahoo.com

¹ ASPEE College of Horticulture, Navsari Agricultural University, Navsari-396 450 (Gujarat), India