# KENYATTA UNIVERSITY

## SCHOOL OF AGRICULTURE AND ENTERPRISE DEVELOPMENT

# 1ST BIENNIAL INTERNATIONAL CONFERENCE PROCEEDINGS ON BRIDGING THE GAP BETWEEN SOCIETY, SCIENCE AND INDUSTRY

**HELD BETWEEN 30TH NOVEMBER AND 5TH DECEMBER 2014 AT BUSINESS AND STUDENT SERVICES CENTER, KENYATTA UNIVERSITY**

**Edited by Waceke Wanjohi, George Kariuki, Maina Mwangi and Cyrus Gichaga**

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**Key words:** Sweet yellow passion (*Passiflora edulis Sims f. flavicarpa Deg*), ISSR (Inter-Simple Sequence Repeats), ISSR primers.

## 11. MORPHOLOGICAL CHARACTERIZATION, WATER STRESS AND NUTRIENT MANAGEMENT OF YELLOW PASSION FRUITS (*Passiflora Edulis, F. Flavicarpa.* Deg) IN MBEERE DISTRICT, EMBU COUNTY

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**Abstract**

Passion fruit has emerged as an important high value horticultural crop in Kenya. The yellow passion has gained wide adoption in Mbeere district due to its apparent adaptation to the hot arid conditions and a ready market for the fruit. Nevertheless, the current production levels of yellow passion fruit are low due to poor agronomic management, declining soil fertility levels and erratic rainfall patterns. Analysis of soil and assessment of plant behavior under varying amount of nutrients is requisite in optimization of nutrient requirements for passion fruit plants. In addition, based on the fact that each nutrient has a specific role in the physiological functions of plants, imbalances often result in characteristic symptoms, which permit the identification of the cause of the disorder. To establish the correct cause of the disorders requires knowledge of the symptoms and its cause which should be determined in both open and controlled experiments. The primary objective of this study is to assess water and nutrient management of yellow passion fruit grown by farmers in Mbeere District. The study will also carry out morphological characterization to determine the genetic structure of the cultivated populations to identify promising parents that can generate hybrids with favourable characteristics such as drought tolerance. The study will set up on-farm experiments with selected farmers in Mbeere District and a control experiment under greenhouse conditions at Kenyatta University. Active participation of the farmers will be encouraged with part of the data collection being carried out by the farmers themselves. The results will contribute to increased efficiency in resource utilization, enhanced production and profitability of yellow passion value farming.

**Key words**: Characterization, nutrient managment, water stress, yellow passion