



Deutscher Tropentag, October 11-13, 2005, Hohenheim

“The Global Food & Product Chain—  
Dynamics, Innovations, Conflicts, Strategies”

## Assessment of Flower and Fruit Formation in *Solanum gilo* and *Solanum macrocarpon*

AMUDALAT OLANIYAN, FUNKE ORISHA, AYORINDE OGUNSESIN

University of Ibadan, Department of Agronomy, Nigeria

### Abstract

Two field trials were carried out to assess the flower and fruit formation in *Solanum macrocarpon* and *Solanum gilo* at Ibadan Nigeria.

In the first trial, seedlings of the two species were raised in the nursery and transplanted at plant spacing of 100 cm by 15 cm on a sandy loam soil, while in the second trial only *S. gilo* was planted with different levels of NPK fertiliser (0, 125, 175 and 175 kg NPK/ha split applied twice). Experimental design was randomised complete block with three replications.

In the first trial, the mean total number of flowers produced per plant was 37.4, of this number 19.4 (52 %) was formed from terminal inflorescences of the primary branches while 18.0 (48 %) were from the lateral branches.

The proportion of flower that developed to mature fruit was 22 % representing 10.4 % and 11.8 % from the primary and lateral branches respectively. A total of 82.9 flowers per plant opened in *S. gilo*, of this 26.3 (31.7 %) from the primary, 47.3 (57 %) from lateral and 9.3 (11.2 %) on the axillary. The total numbers of flower aborted in *S. macrocarpon* and *S. gilo* were 77.8 % and 89.3 % respectively.

In the second trial, the number of flowers opened per plant ranged between 31 and 71 and the highest were from plant treated with single application of 175 kg NPK/ha although there were no significant differences by splitting the same amount, followed by 125 kg NPK/ha and the control gave the least. The rate of flower abscission was generally high with about 66 % of the opened flowers aborted.

Fertiliser application generally enhanced yield, plants without fertiliser produced fruits which were smaller and fewer in numbers, fertiliser reduces flower abscission, however, it did not stabilise fruit yield sufficiently in that more of the opened flowers aborted with only a few forming matured fruit. Therefore factors other than nutrients might have been responsible for this.

**Keywords:** Abscission, flower, formation, *Solanum gilo*, *Solanum macrocarpon*