

**SEASONAL VARIATION EFFECTS ON FLOWER
FORMATION AND FRUIT SET IN TOMATO (*Lycopersicon
esculentum Mill.*)**

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ABSTRACT

The concept of 'cropping season' derives directly from the controlling effect of prevailing weather factors on crop growth, development, and productivity. Flowering and fruit set in tomato are traits which are particularly sensitive to weather attributes especially temperature and relative humidity. This study therefore examined flower formation and fruit set in three cultivars of tomato (SAMTOM-4, SAMTOM-7 and SAMTOM-10) under two distinct cropping seasons; the wet season and the hot dry season, at Samaru in the guinea savanna ecological zone of northern Nigeria. The effect of season, and by inference, the prevailing weather attributes, on both characters were found to be statistically significant. The wet season condition was found more favourable for flowering and fruit set than the hot dry season. There was an observed low flower count and an equally low fruit settling rate in the dry season crop. Fruit setting rate (%) range for the two wet seasons was 25.1–55.0 and 12.3–33.1 for the two dry seasons. Statistical mean square values resulting from analysis of variance indicated large and significant season variance for total fruit set per plant, fruit diameter, and cumulative fruit yield.

Keywords: Cropping season, Guinea savanna, Weather attributes, Fruit setting rate.