PIGEONPEA PHENOLOGY IN SUB HUMID AND SEMI ARID ENVIRONMENTS IN KENYA

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Abstract (C2104)
Pigeonpea phenology is influenced by temperature and day length and this has adaptive value in terms of the crops role in food security in different ecological zones. Field experiments were conducted at sub-humid and semi-arid area between June 2001 and February 2002 to determine the phenology of the long and medium duration pigeon pea. The experiments were laid out as randomized complete block design replicated four times. Treatments included two long duration erect and semi erect varieties (ICEAP-00053 and ICEAP-00040, respectively) and a medium duration variety (ICEAP-00557). The pigeonpea varieties were sown in the University of Nairobi, Kabete Field Station Farm (sub-humid) and Jomo Kenyatta University of Agriculture and Technology Farm at Juja (semi-arid). The duration of key phenological stages were monitored in the two sites. Thermal time accumulation was also calculated for all the pigeonpea duration types in each location. The results showed that the phenological development varied among the pigeonpea duration types and across the locations. The medium duration pigeonpea flowered and matured earlier than long duration types in both sites. The long duration pigeonpea varieties flowered and matured earlier at Kabete (160 and 190 days to flower and mature) than at Thika (188 and 220 days to flower and mature) due to low temperatures hastening the phenological development of long duration pigeonpea at Kabete. However, the medium duration phenology was delayed at cooler Kabete relative to warmer at Thika. The long duration pigeonpeas were twice as tall at Thika (264cm) compared to Kabete (126cm). This phenological variation provides opportunities for variety targeting in different production environments.

Key words: Pigeonpea phenology, thermal time and plant height