



Staff Publications

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Title	Leaf area development, dry weight accumulation and solar energy conversion efficiencies of Phaseolus vulgaris L. under different soil moisture levels near Nairobi, Kenya	Export citation
Author(s)	Muniafu, M.M.; Macharia, J.N.M.; Stigter, C.J.; Coulson, G.L.	
Source	Journal of Environmental Sciences 11 (1999)4. - ISSN 1001-0742 - p. 449 - 456.	Stigter, C.J.
Department(s)	Meteorology and Air Quality	
Research programme(s)	C.T. de Wit Graduate School Production Ecology (1994 - 1999) <i>Research theme: Characterising the abiotic environment</i>	
Publication type	Refereed Article in a scientific journal	
Publication year	1999	
Abstract	Leaf area development, dry weight accumulation and solar energy conversion efficiencies of Phaseolus vulgaris L. cv GLP-2 under two soil moisture levels in two contrasting seasons near Nairobi, Kenya were investigated. The experiment confirms that dry weights and yields of Phaseolus vulgaris are limited by a drought induced decrease in leaf area, leading to less radiation interception as a source for assimilation. However, photosynthetic efficiency in Phaseolus vulgaris also appears to decrease and to contribute to these effects. Finally, an even larger decreases of economic efficiency as obtained in the second season, where stress lasted much later into the season, reveals that such a drought also limits considerably the partitioning and translocation of assimilates to the seeds of Phaseolus vulgaris. The efficiencies obtained are in line with the better literature data for other crops.	
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