

Influence of Brassinosteroid (BR) and Kinetin on Drymatter Accumulation and Partitioning in Relation to Yield of Chickpea (*Cicer arietinum* L.) under Water Stress

G Vijaya Kumar, G L N Reddy, Y Ashoka Rani, P Prasuna Rani and V Srinivasa rao
Department of Plant Physiology, Agricultural College, Bapatla – 522 101, Andhra Pradesh

ABSTRACT

Two field experiments were conducted at Agricultural College Farm, Bapatla during two consecutive *rabi* seasons of 2008-09 and 2009-10 to study the influence of brassinosteroid and kinetin on dry matter accumulation and partitioning in relation to yield of chickpea under water stress. The experiment was laid out in split plot design with nine treatments and replicated four times. The results revealed that the influence of BR and Kinetin as foliar spray on dry matter partitioning was more pronounced under water stress condition compared to control. The reduction in dry matter allocation into vegetative parts was more under BR spray followed by Kinetin; indicating under stress conditions dry matter partitioning was more to reproductive parts. In case of seed yield, no water stress recorded significantly higher seed yield (31.9%) over water stress from vegetative stage. Among foliar sprays, homobrassinolide spray @ 1ppm resulted in higher seed yield (20.9%) than no spray and it was on par with kinetin spray @ 5ppm. Seed yield had significant positive correlation with root, stem, leaf and pod weight. It can be concluded that homobrassinolide spray @1ppm at initial stages of pod development would provide better dry matter partitioning resulting potential seed yield under water stress conditions in chickpea at coastal regions of Andhra Pradesh.

Key words : Brassinosteroid (BR), Chickpea, Kinetin, Total Drymatter partitioning, Water stress, Yield.