World Academy of Science, Engineering and Technology
International Journal of Agricultural and Biosystems Engineering
Vol:8, No:02, 2014

# Influence of Salicylic Acid on Yield and Some Physiological Parameters in Chickpea (Cicer arietinum L.)

**Authors :** Farid Shekari

**Abstract :** Salicylic Acid (SA) is a plant hormone that improves some physiological responses of plants under stress conditions. Seeds of two desi type chickpea cultivars, viz., Kaka and Pirooz, primed with 250, 500, 750, and 1000 µM of SA and a group of seeds without any treating (as control) were evaluated under rain fed conditions. Seed priming in both cultivars led to higher efficiency compare to non-primed treatments. In general, seed priming with 500 and 750 µM of SA had appropriate effects; however the cultivars responses were different in this regard. Kaka showed better performance both in primed and non-primed seed than Pirooz. Results of this study revealed that not only yield quantity but also yield quality, as seed protein amounts, could positively affect by SA treatments. It seems that SA by enhancing of soluble sugars and proline amounts enhanced total water potential (ψ) and RWC. The increment in RWC led to rose of chlorophyll content of plants chlorophyll stability. In general, SA increased water use efficiency, both in biologic and seed yield base, and drought tolerance of chickpea plants. HI was a little decreased in SA treatments and it shows that SA more effective in biomass production than seed yield.

**Keywords :** chlorophyll, harvest index, proline, seed protein, soluble sugar, water use efficiency, yield component
**Conference Title :** ICABBBE 2014 : International Conference on Agricultural, Biotechnology, Biological and Biosystems Engineering
**Conference Location :** Kuala Lumpur, Malaysia
**Conference Dates :** February 13-14, 2014