

## The influence of foliar and soil fertilization of potassium on growth, yield and quality of garlic plants (*Allium sativum* L.).

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**Abstract :** Two farm testing were completed in the empirical terminal of National Research Centre at Nubaria, Behira Governorate, Egypt through the two winter seasons of 2013/2014 and 2014/2015 to research the effect of various levels of potassium fertilization (0, 100 and 200 unites of potassium) as potassium sulfate in addition to foliar application by water (control) or potassium thiosulfat (KTS) at (1 %) and (2%) and their interaction on output and goodness of garlic cv. "Chinese.". Potassium foliar employment was made 3 times at 15 days period during the growing interval (30, 45 and 60 days after planting). The acquired results display that:

1-The elevated potassium fertilization rate (200 unites of potassium soil fertilizer) grant the tallest plant, the highest number of leaves per plant and the biggest fresh and dry weight of plants as well as the towering total bulb yield / fed. Also, the gained effect notify that the cloves measure i.e. (number, weight and TSS) as well as cloves chemical synthesis (N, P, K and protein) were increased with increasing potassium fertilization rate.

2- Spraying garlic plants with potassium thiosulfate at a rate of (2%) markedly increased vegetative growth, yield, bulbs quality and cloves chemical structure.

3-The suitable belongings of the potassium on the growth, total yield and bulb parameters were acquired when garlic plants soil fertilized with 200 units of potassium fertilizer excessive elevation standard of foliar application of potassium thiosulfate (2%).

**Key words:** Garlic, potassium soil fertilizer, foliar potassium thiosulfate (KTS), growth, total bulb yield, cloves quality.

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