INTRODUCTION

Sowing date is considered the most important among different factors, which influence growth and yield of cotton. In Egypt, many investigations showed that early sowing had a favourable effect on yield of seed cotton compared to late sowing. Also, many workers studied the effect of sowing date on cotton plant **Kassem (1999), Abou El-Nour *et al.* (2000) and Ali and El-Sayed (2001)**. They found that yield and its components increased in early planting. Regarding the growth of cotton plant, **Abou El-Nour *et al.* (2000) and El-Sayed and El-Menshawi (2006)** mentioned that number of fruiting branches / plant, number of open bolls / plant, boll weight, lint percentage and seed index gradually decreased from early to late sowing.

Potassium is on important element in plant nutrition. It affects on, enzyme activation, water relations, energy relations, translocation of assimilates nitrogen uptake, protein and starch synthesis. Many workers studied the effect of potassium application. **Abou El-Nour *et al.* (2000), El-Dosouky *et al.* (2001), El-Tabbakh (2002), Aneela and Ashraf. (2003)** and **Mohsin *et al.* (2004),** observed positive response of cotton plants to potassium application. **Sharma and Singh (2007)** showed that foliar application of potassium fertilizer 2 % K_2O at 5 kg / ha increased no. of open bolls / plant, boll weight and seed cotton yield.

Boron is an essential micronutrient for plant growth and development, but the range between deficient and toxic boron concentration is smaller than for any other nutrient element.

Plants respond directly to the activity of boron in soil solution and indirectly to boron absorbed on soil constituent. In this connection, **Anderson and Boswell (1968), Ahmed (1977), Ahmed *et al.* (1992), Heithholt (1994), Sabino *et al.* (1996), Saeed (2000) El-Masri *et al.* (2005), Dordas (2006) and El-Gabiery (2006)** studied the effect of boron application at 0.15,0.30% and 17.2 ppm as boric acid who found that boron application increased boll setting percentage, number of open bolls / plant, boll weight, earliness and lint percentage where found to increased compared with to control.

The aim of this investigation was to study the effect of two planting dates, three potassium application treatments and three boron rates sprayed in different concentrations at two growth stages on growth, yield, yield components, fiber properties and chemical concentrations of in plants Egyptian cotton Giza 80 cultivar.