Agronomy Department

EFFECT OF PLANT DISTRIBUTION PATTERNS AND FOLIAR SPRAYING WITH SOME MATERIALS UNDER LATE PLANTING CONDITIONS ON COTTON PRODUCTIVITY

BY

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ABSTRACT

Two field experiments were conducted during 2018 and 2019 seasons at Sakha Agricultural Research Station, Kafr El Sheikh Governorate, Egypt to put the agricultural recommendations for the genotype [(Giza 89 x Karashinky) x Giza 86] x Giza 94 before releasing in agriculture as a new cultivar through find out the proper plant distributions of the recommended density(46,334 plant/fed) and the effect of nano Lithovit boron and mepiquat choloride (Pix) in reducing the negative effect of delaying sowing date through study the effect of seven plant distribution patterns pattern (1): sowing cotton in ridges 120 cm apart on both sides in hills 30 cm apart, 2 plants/hill after thinning, pattern (2): sowing cotton in ridges 120 cm apart on both sides in hills 15 cm apart, one plant/hill after thinning, pattern (3): sowing cotton in ridges 90 cm apart on both sides in hills 40 cm apart, 2 plants/hill after thinning, pattern (4): sowing cotton in ridges 90 cm apart on both sides in hills 20 cm apart, one plant/hill after thinning, pattern (5): sowing cotton in ridges 70 cm apart on one side in hills 26 cm apart, 2 plants/hill after thinning, pattern (6): sowing cotton in ridges 60 cm apart on one side in hills 30 cm apart, 2 plants/hill after thinning and pattern (7): sowing cotton in ridges 60 cm apart on one side in hills 15 cm apart, one plant/hill after thinning and three foliar spraying treatments (without, nano Lithovit boron and Pix) as well as their interaction on the Egyptian new genotype [(Giza 89 x Karashinky) x Giza 86] x Giza 94.

The experiment was laid out in a strip plot design with five replicates in the first season and four replicates in the second season

Patterns 1and 2 significantly increased leaves chemical composition, growth, seed cotton yield/fed and its components, boll setting percentage, and earliness index in both seasons.

Foliar CO_2 as a nano-fertilizer (in the form of Lithovit) in addition to boron in the organic form at a rate of 2 g nano lithovit boron/l three times significantly

increased leaves chemical composition, growth, seed cotton yield/fed and its components, boll setting percentage, and earliness index in both seasons.

Plants under plant distribution of pattern 1 and received nano Lithovit boron significantly increased leaves chemical composition, growth, seed cotton yield/fed and its components, boll setting percentage, and earliness index in both seasons.

It is a divisible to apply Pattern 1 and foliar feeding with CO_2 as a nano-fertilizer (in the form of Lithovit) in addition to boron in the organic form at a rate of 2 g nano Lithovit boron/l three times for high yield and lint quality of the new genotype [(Giza 89 x Karashinky) x Giza 86] x Giza 94 under Sakha region conditions.

Key Words

Foliar, CO_2, nano, fertilizer, Lithovit, nanotechnology, genotype, cotton, Pix.