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## The stimulant effect of the Spirulina Algae under Low Levels of Nitrogen Fertilization on Wheat plants Grown in Sandy Soils

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**Abstract:** A field successive experiment was carried out employing sandy soil to clarify the spirulina algae (blue green micro-algae water extract) and varied levels of N fertilization on growth, yield and nutrients indices of wheat (*Triticum aestivum L.*) plants. The experiment was carried out to evaluate the effect of three level of spirulina algae (25, 50 and 100 ml L<sup>-1</sup>) as combined with two levels of nitrogen fertilization (80 and 100 kg N/fed). Increasing the level of spirulina algae from 25 to 100 under the low levels of nitrogen fertilization led to the increase of both growth and yield of wheat and not influenced by decreasing nitrogen fertilization rate. The lowest Nutrient Balance Index (NBI) was recorded from combination treatments 100 kg N fed<sup>-1</sup> + 100 ml spirulina algae per litter and 100 kg N fed<sup>-1</sup> + 50 ml spirulina algae per litter, were attained 12.02 and 12.64, respectively; this treatments achieved high grain yield which were 2.82 and 2.81 ton fed<sup>-1</sup>, respectively.

**Key word:** Wheat (*Triticum aestivum L.*), spirulina algae, N fertilization, growth, yield, Nutrient Balance Index.

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