This research was carried out at the Experimental Area of the Faculty of Agriculture, Suleyman Demirel University, Isparta, Turkey, during 2012 growing seasons. The hybrid variety Merit was used as sweet corn cultivar. A factorial experiment was conducted based on split-plot design in a randomized completed block with three replications. The factors consisted of three doses of nitrogen fertilizer (0, 100, 200 kg N/ha) and bio-fertilizer (Azotobacter, Mycorrhiza, Bacillus). The nitrogen fertilizer applications were placed in main plots whereas bio-fertilizer applications were placed in sub-plots. In each block placed 12 plots (0 kgN/ha, 0 + Mycorrhiza, 0 + Azotobacter, 0 + Bacillus; 100 kgN/ha, 100 + Mycorrhiza, 100 + Azotobacter, 100 + Bacillus; 200 kgN/ha, 200 + Mycorrhiza, 200 + Azotobacter, 200 + Bacillus). Each plot consisted of 4 lines with 4 meter length, 70 cm row spacing and 20 cm plant spacing. In order to determine agronomic traits (plant height, ear diameter, seed number in ear, number of ears in each plant, fresh ear yield, protein content and total sugar content) 10 plants were randomly selected in each plot. The results showed that nitrogen rates had significant effect on yield, yield components, crude protein content and total sugar content. Significant increase was observed in some characters with applying bio-fertilizers and increasing nitrogen from zero to 200 kg N/ha and but significant differences between 100 kg N/ha to 200 kg N/ha were not observed in most of traits. There was significant interaction between nitrogen doses and bio-fertilizers. The highest fresh ear yield and seed number in ear were obtained by applying 100 kg N/ha with Azotobacter. Also the highest protein and total sugar contents were obtained by applying 100 kg N/ha with Azotobacter and Mycorrhiza. According to results of this study, it can be concluded that applying nitrogen with bio-fertilizers can be reduced amount of nitrogen fertilizer.