The purpose of this study was to investigate the effects of plant density and different sowing dates on fresh ear weight and quality characters of Batem Tatli sweet corn cultivar. The trial was established as randomized block split-plot design with 3 replications. The different sowing dates (15 April, 1 May, 15 May, 1 June and 15 June) consisted the main plots whereas distances within rows were the sub-plots (15, 20, 25 cm). Phosphorus and nitrogen fertilizers were applied 10 kg/da as P2 O5 and 20 kg/da as N to the pilots. Results showed that the effect of sowing time and distances within rows had significant effect on number of tiller, ear length, husked fresh ear weight, seed number in ear, days to tasseling and days to silking. However, year had a significant effect on examined characters except to ear length. The interaction between sowing time and distance in the row was found significant. As a result, when the fresh ear weight and seed number in ear was taken into consideration, it was found that in Isparta conditions, Batem Tatli sweet corn cultivar should be sown between first week of May and first week of June with more than 15 cm raw spacing.