The aim of this research was to improve functional properties and sensory of plain set type yogurt since yogurt bacteria have low probiotic properties. Total solid standardization (to 15% w v-1) of milks was made with either using natural kefir powder as a treatment group (KTYO) or milk powder as a control group (YKON). Kefir powder was produced with freeze-dried kefir made from kefir grains. Microbial, chemical, sensory and physical properties of yogurts were determined during cold storage. The attributes determined on the yogurts were pH, total solids, titratable acidity, whey separation, sensory properties, color parameters and flavor. Numbers of Lactobacillus spp. in yogurt samples contained either kefir powder or milk powder were similar and did not change significantly during cold storage. L. acidophilus and Bifidobacterium spp. contents of KTYO ranged between 5.79-6.93 log cfu g-1 and 4.05 -4.83 log cfu g-1 during the cold storage, respectively. There was no significant reduction in the number of L. acidophilus and Bifidobacterium spp. during the storage (P>0.05). In general, sensory properties of the YKON and KTYO were similar (P>0.05).