The effects of 0.5, 1.0 and 1.5% acid-soluble chitosan coatings on mango fruits cv. “Nam Dok Mai” stored at 13 °C and 90-95% RH were studied. The storage quality conditions including respiration rates, weight loss, color, texture changes were tested. The results showed that coating with chitosan reduced respiration rates and delayed the ripening of fruits when compared with noncoating. The fruits coating with 1.0 and 1.5% chitosan had good storage quality for up to 36 days while 0.5% coating and uncoated fruits had good storage quality for 8 and 12 days respectively. Scanning electron microscopic study of the external skin of chitosan coated mango fruit showed that the coating could cover all over the external skin of fruit, increasing internal carbondioxide and decreasing internal oxygen.