The primary aim of this research was to prolong the harvest date and a secondary aim was to increase the quality of ‘Monroe’ peaches. For this purpose, different concentrations (0, 100, 200 and 300 mg L-1) of GA3 (commercial name is Falgro) were applied to 7, 21 and 30 days before commercial harvest. The effect of gibberellic acid (GA3) were evaluated on fruit quality and harvest date of ‘Monroe’ peach over 2-year period in a commercial orchard. Some fruit quality parameters (fruit weight, fruit flesh firmness, soluble solids content, titratable acidity, fruit color and sugar contents), delay in harvest, ethylene production, respiration rate were assessed for per treatments. Fruit maturity was delayed about 4-6 days in GA3 applied fruits than control group. Sequential harvest was completed in 6-7 days before the normal harvest time. The additional increase in fruit size and fruit weight was detected. GA3 sprayed fruits were firmer than that of the control fruits. The most determined results of GA3 treatment was occurred on color, one of the significant quality parameter in peaches and GA3 application had positive effect on the development red color and sugar (total, invert and sucrose) accumulation in fruits. On the other hand, treatments of GA3 decreased ethylene production and respiration rate.