The effects of Aminoethoxyvinylglycine on fruit quality and harvest time of 'Angeleno' plum were investigated. For this purpose, ReTain (15% a.i) was applied as AVG source with 100 mg/l and 50+50 mg/l to plum trees 28 days (single spray) and 14 days (double spray) before optimal harvest. Based on fruits were harvested according to maturation standards data, AVG applications delayed the harvest time about 3 days. AVG treated fruits had significantly firmness than those of the control fruits, and 100 mg/l AVG treatment supplied an increase in firmness in the rate of % 11. However, there was minor increase in fruit weight with AVG, there were no additional effect in fruit size or weight. The obstructive effect of all treatments on production of ethylene and respiration rate was evidence. All treatments decreased rate of ethylene production and respiration rate of fruits. AVG treatment of had no significant effects on the ascorbic acid and total phenolic compounds of fresh fruit. Aminoethoxyvinylglycine applications to 'Angeleno' cultivar can be practiced successfully to manage harvest by delaying and improving fruit firmness.