

PUBLICATIONS

1987

Horticulture Research, 1987 – Overton

Research Center Technical Report 87-1

Texas A&M University Agriculture Research &
Extension Center at Overton

Texas Agricultural Experiment Station
Texas Agricultural Extension Service

Overton, Texas

1987

PRELIMINARY REPORT ON USE OF ETHEPHON TO INDUCE EARLY RIPENING
OF RABBITEYE BLUEBERRIES

Kim Patten and Elizabeth Neuendorff

INTRODUCTION

Plant growth regulators are used in the production of all major fruit crops in the United States. They can have a very pronounced effect on plant growth, fruit quality and fruit ripening. A program utilizing growth regulators on rabbiteye blueberries has not yet been developed. Several instances where growth regulators could have potential benefit in the commercial production of blueberries are concentrating the ripening period for mechanical harvesting, advancing the ripening time, or enhancing fruit size and quality. A preliminary study on the use of Ethephon to induce early ripening of rabbiteye blueberries is reported.

MATERIALS AND METHODS

Mature 'Tifblue' rabbiteye blueberry plants were sprayed with Ethephon at 1000 ppm one week before harvest (15 June - when the first few fruit were turning blue). There were four whole bush replications per treatment. A random sample of fruit were harvested from each plant on 23 June.

RESULTS AND DISCUSSION

Ethephon caused almost the entire crop to ripen at one time (83% compared to 39% for the control). However, the advancement in ripening resulted in reduced fruit weight and soluble solids. Some fruit drop was also apparent with the Ethephon sprays.

At this time, the blueberry acreage in Texas is largely a pick-your-own. When large plantings in the state begin to produce, mechanical harvesting them for the fresh market will be necessary. The use of Ethephon to concentrate ripening for a once over harvest could greatly increase the early market potential and reduce labor requirements. Upon contact with the plant, Ethephon releases ethylene, which is a natural gaseous plant hormone involved in fruit ripening processes. Ethephon is currently registered for blueberries in the northern U.S. Further work is needed to determine the best

timing and concentration for Texas. Work done in Georgia indicates that a 500 ppm Ethephon spray will advance ripening of 'Climax' fruit one week.

Table 1. Effect of Plant Growth Regulators on the Ripening Time and Fruit Quality of Rabbiteye Blueberries

Treatment	Weight of Mature Fruit	Soluble Solid (%)	% Mature	Mean ^z Color ^z
Ethephon	1.0	11.9	83	5.6
Control	1.2	14.6	39	3.5

^z 1= green fruit
6= mature blue fruit

^y * significant at 5% level.