was probably influenced by the fact that 'Florida MH-1' has a more concentrated pattern of fruit set than 'Walter' (3) and therefore, had less difference in the physiological stage of development among sizes. If the effectiveness of ethephon was limited to a particular stage of maturity, some effect might be shown in all size groups but should be most pronounced in the size that had the greatest percentage of fruits between the mature and immature stages. The fact that ethephon was effective on only one size of each lot indicated that the higher concentrations were sufficient to stimulate ripening in fruits that were on the borderline. The more mature samples were probably producing ethylene to the point where that produced by the ethephon provided no additional stimulus. On the other hand, the less mature fruits were probably not developed to the point where the level of ethylene produced by ethephon was sufficient to stimulate natural production.

In contrast to Crill, et al (2), who found no effect of maturity on rate of ripening, there was an effect of maturity on ripening of both control and ethephon treated fruits. The maturity range in this study was probably much greater because different size fruits were utilized. Iwahori and Lyons (5) found that preharvest applications of ethephon had the same effect on age of fruit at color break whether the applications were made at 15 or 35 days after anthesis.

The response indicates a potential for preharvest applications of ethephon to concentrate postharvest ripening of fruit harvested mature green. There is also a possibility of using a relationship between concentration of ethephon and time between application and/or harvest and color break on the fruit to eliminate immature fruit.

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ABG-3030: AN ABSCISSION CHEMICAL FOR PROCESSING ORANGES: ANALYTICAL, RESIDUE AND ENVIRONMENTAL CONSIDERATIONS

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Abstract. **ABG-3030 is under development as an abscission agent for processing oranges. Analytical procedures developed for the detection of this material in citrus and citrus by-products is described. Data on the fate of ABG-3030 and its distribution within the environment is presented.**

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Materials and Methods

Location. Experiment Station, Lake Alfred, Florida.

Application. Active ingredient of ABG-3030 at 250 ppm sprayed at 15 gal./tree (3 lb./acre) containing surfactant X-77 (Colloidal Products, Inc.) at 8 oz./100 gal.

Code. Treatment 1, control; treatment 2, spray date April 1, 1974; treatment 3, spray date April 4, 1974. All treatments mechanically harvested April 5, 1974, stored in cold room before washing April 8, 1974 and processed April 9, 1974.

Citrus Processing Procedure. Oranges were processed in the same manner as a commercial