Metabolism, Action, and Use of BAS-125 W in Apples: Introduction to the Workshop

Esmail Fallahi

University of Idaho, Parma Research and Extension Center, 29603 U of I Lane, Parma, ID 83660-6699

The trend toward establishment of higher density apple (*Malus ×domestica* Borkh.) orchards necessitates the use of size-controlling rootstocks. Trees on such rootstocks are precocious and the fruit have better color than do those on seedling rootstocks because of the smaller tree canopy and better light penetration. However, many size-controlling rootstocks are susceptible to diseases such as fireblight, caused by *Erwinia amylovora*, and the trees require support because of poor anchorage.

Despite the use of such rootstocks, managing excessive growth continues to be a challenge. Although various cultural practices, such as girdling and reduced application of fertilizer and water, have been used,

search for a chemical means of managing vegetative growth continues.

Prohexadione-calcium, experimentally known as BAS-125W, is a plant growth regulator being developed for registration under the commercial name "Apogee" in the United States by the BASF Corp. and Kumiai Chemical Industry Co. Ltd. BAS-125W reduces vegetative growth by inhibiting the biosynthesis of gibberellin. Our experience in Idaho has shown that BAS-125 can reduce both vegetative growth and the occurrence of fireblight in apples (Fallahi et al., unpublished data). In this workshop, data on the metabolism, action, and effects of BAS-125W on apple tree growth, fruit quality, fireblight, and fruit set are presented and discussed.

Received for publication 17 Nov. 1998. Accepted for publication 18 Nov. 1998. The cost of publishing this paper was defrayed in part by the payment of page charges. Under postal regulations, this paper therefore must be hereby marked *advertisement* solely to indicate this fact.