

PERFORMANCE OF NEW BLIZZARD® COTTON DEFOLIANT

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Abstract

BLIZZARD™ plant growth regulator product (fluthiacet-methyl) is a new harvest aid being developed by Crompton Corporation and Kumiai America for use in cotton. BLIZZARD™ inhibits the enzyme protoporphyrinogen-oxidase, inducing the accumulation of protoporphyrins, which leads to irreversible cell membrane damage, and loss of cell function. Activity is very rapid on cotton foliage with symptoms typically visible within 24 hours following application.

Field studies were initiated in 2004 to evaluate BLIZZARD for cotton defoliation, leaf desiccation and regrowth inhibition at several locations throughout the Mid-South, Southeast and Texas cotton producing regions. BLIZZARD was applied alone as sequential applications; following DROPP® defoliant product and tank mixed with DROPP, and in combinations with the agricultural products COTTONQUIK®, FINISH®, PREP® and SUPER BOLL®. Use rates of 0.4, 0.5 and 0.6 oz/A were applied depending on location. Crop oil concentrate was added to BLIZZARD treatments to enhance activity. Results of Mid-South, Southeast and south Texas regional testing showed sequential BLIZZARD applications, applications following DROPP, tank mixes with DROPP and tank mixes with COTTONQUIK, FINISH, and PREP to be very effective for defoliation. Three-way mixtures of BLIZZARD, DROPP and PREP applied as single applications also provided effective defoliation in the Southeast regional studies. Effective regrowth suppression occurred with sequential BLIZZARD applications, following DROPP and tank mixed with DROPP. BLIZZARD performance as a defoliant was equal to either of the agricultural products AIM® or ET® when all were applied sequentially, following DROPP or tank mixed with DROPP. In west Texas studies, BLIZZARD combinations with ethephon products such as COTTONQUIK, PREP and SUPER BOLL as single applications and followed by BLIZZARD gave excellent defoliation with minimal desiccation. BLIZZARD tank mixes with ethephon products were equal to or better than AIM, ET, DEF® defoliant product and GINSTAR® defoliant product, tank mixed with ethephon for defoliation in those trials.

Registration of BLIZZARD™ plant growth regulator product for use as a defoliant in cotton is pending at EPA with label issuance expected in early 2005. BLIZZARD™ plant growth regulator product will be formulated as a 0.91 lb/gal emulsifiable concentrate.