

Efficacy of CottonQuik™ in California for Cotton Boll Opening and Defoliation.
Stephen Colbert, Griffin Corporation, Escalon CA.

CottonQuik is a new generation ethephon based cotton boll opener and defoliant. It contains a proprietary synergist (1-aminomethanamide dihydrogen tetraoxosulfate, AMADS) which maximizes the activity of ethephon and other defoliant. CottonQuik has been registered and used outside of California for the past two growing seasons. Field research and grower use outside California has shown lower rates of ethephon as CottonQuik tank mixed with lower rates of defoliant such as Ginstar, Dropp, and Def/Folex are equivalent to standard rates of other ethephon containing products tank mixed with defoliant. Research was conducted in 1996 and 1997 to determine if CottonQuik tank mixtures would perform similarly under California conditions.

CottonQuik was tested alone and in combination with other defoliant for boll opening, defoliation, desiccation, and regrowth where present. Replicated small plot tests were conducted in 1996 and 1997 by the University of California Cooperative Extension (Bruce Roberts, UCCE Kings Co.; Steve Wright, UCCE Tulare Co.; Ron Vargas and Tomé Martin-Duvall, UCCE Madera Co.) and Griffin Corporation. Large demonstration plots were conducted by Griffin Corporation in cooperation with production consultants and growers in 1997.

Results of field trials conducted in 1996 and 1997 confirmed the boll opening and defoliation efficacy of CottonQuik in California. In the 1997 UCCE Acala cotton defoliation study, CottonQuik alone provided statistically equivalent defoliation and boll opening and statistically less regrowth compared to Prep alone and Finish at equal ethephon rates (1.5 lb ai/A). In the same study, CottonQuik (1.5 lb ai/A) plus 6 oz/A of Ginstar was not statistically different from Ginstar alone at 10 oz/A for defoliation and provided statistically greater boll opening. In addition, CottonQuik (1.5 lb ethephon/A) plus 1.5 pt Folex was statistically equal to Prep (1.5 lb ai/A) plus 2 pt/A of Def for defoliation and boll opening. CottonQuik consistently provided equivalent activity with reduced ethephon and defoliant use rates compared to standard defoliation and boll opening treatments in Griffin Corporation small plot and grower applied demonstration field trials. CottonQuik also performed well as a tank mix partner with Ginstar for defoliation and boll opening of Pima cotton.

CottonQuik is now registered in California and will be commercially available in 1998. CottonQuik was the first "synergized" ethephon product registered and has become widely accepted as a tank mix partner with Def/Folex, Dropp, and Ginstar. Although CottonQuik is both a defoliant and boll opener for senescent cotton, it is generally recommended that it be used in combination with another defoliant. Under California conditions, the manufacturer (Griffin Corporation) recommendations for CottonQuik are that it be used at timings and in tank mixes similar to currently used with other ethephon containing boll openers. However, the enhanced activity of ethephon and defoliant in tank mixes with CottonQuik allow use of lower overall active ingredient rates per acre. Specifically, approximately 1.5 to 2.0 qt per acre of CottonQuik plus approximately 1.0 to 1.5 pt/A of Def/Folex, 0.1 to 0.2 lb/A of Dropp, and 4 to 6 oz/A of Ginstar have proven effective. These rates and tank mixes will vary in efficacy with each use season due to environmental and cultural conditions. Where faster and greater boll opening are desired, higher rates of CottonQuik should be used. Lower rates have proven just as effective as high rates of CottonQuik for enhanced activity of tank mix partners.