

HARVEST AID TIMING AND SCHEDULING IN THE SOUTHEAST CHOICE OF MATERIALS AND PERFORMANCE

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Abstract

Several materials are registered and recommended for use as harvest aids in Alabama, Georgia, Florida, North Carolina, South Carolina, and Virginia. Def/Folex, Dropp, Harvade, Ginstar, ethephon (Prep, etc.), Finish, and CottonQuik, are some of the most popular products. Seldom is a single harvest aid used alone. Variability of growing conditions during the season, different varieties and cultural systems used, and environmental factors during the harvest all combine to result in no standard method for harvest aid timing or choice of materials. The majority of Southeast cotton (>90) is grown in rows spaced 36 to 40 inches apart and harvested with spindle pickers. Some cotton is grown in 30 inch row spacing and recently cotton grown in 7 to 15 inch row spacing and termed ultra narrow row (UNR) has been produced. UNR cotton is harvested with a stripper and as such the harvest aid program used with this cotton is generally different than that for spindle picked cotton.

Spindle picked cotton planted in conventional row spacing is normally seeded to obtain a population of 35 to 60 thousand plants per acre. Mature spindle picked cotton plants usually range in height from about 30 to 60 inches, but may be significantly shorter or taller depending on growing conditions and management. Conventional row cotton is always defoliated and seldom or never desiccated. The three primary actions of harvest aides in picker cotton include defoliation, boll opening, and regrowth control. Growers of picker cotton may need one or all three of these properties in their fields. Popular mixtures include; Def/Folex plus Dropp, Harvade plus Dropp, Def/Folex plus Dropp plus ethephon, Finish plus Dropp or Def/Folex, CottonQuik plus Dropp or Def/Folex, Ginstar alone, or Ginstar plus Finish or ethephon. Most growers would like to apply harvest aides once and pick about 10 days afterward; however, this sometimes doesn't work due to adverse weather conditions following defoliation, or the presence of a tall, lush crop which cannot be adequately covered with one application. Timing of application is determined using several methods including nodes above cracked boll, percent open, and boll slicing to determine maturity. Most growers want to have their cotton out of the field no later than the middle of October, although weather conditions and picker capacity sometimes preclude this.

UNR cotton in the Southeastern U.S. is first defoliated and then normally desiccated before being harvested with a cotton stripper. Mature UNR cotton should be maintained at a height less than 32 inches either by adverse (dry) weather or with the use of mepiquate chloride (Pix, etc.). Plant populations in UNR cotton should range from 110 to 200 thousand plants per acre. Many of the same harvest aides used in picker cotton are also used in UNR cotton; however, a desiccant (paraquat) is normally applied about 7 days following the initial treatment with a defoliant. Regrowth control is generally not as important in UNR cotton as it is in picker cotton. The application of a desiccant effectively kills the cotton stalk and dries any green tissue rapidly. This also presents a potential problem in that the cotton should be harvested with 3 to 5 days following a desiccant treatment. This is critical since paraquat begins to break down the bark of the cotton stalk and the cotton stripper can remove this bark and

contaminate the lint if harvest is significantly delayed following desiccation. Boll openers (ethephon, Finish, CottonQuik, etc.) may be used in UNR cotton, but are sometimes not necessary as boll number per plant generally ranges from 2 to 5.