Introduction
Use of strobiluron fungicides is relatively new to Alabama producers; however, up to 50% of the soybean acreage was treated in 2005, due to the presence of Asian Soybean Rust (ASR). Many of these fields experienced retention of green leaves long after pod maturity in 2005, but was highly variable. Differences were observed according to cultivars, use of different active ingredients and rates, timing and weather. Many soybean producers delayed harvest until frost or weathering removed these leaves, leading to seed deterioration and shattering losses. Others combined through fields which had large amounts of green leaves and stems, at greatly reduced speeds and with increased fuel and machinery costs and foreign material dockage. Desiccant materials may dry up these green leaves and stems for more timely and efficient harvest, but have been stilt used in Alabama soybean production. A series of experiments was conducted across the state in 2006 to investigate the effects of timing of strobiluron fungicide applications on retention of green leaves and stems, and of harvest aid treatments to alleviate effects.

Methods
Strobiluron Effects: Three trials investigated strobiluron timing at different growth stages, with and without desiccants applied to increase harvest efficiency. Trials were conducted in and central AL at the Tennessee Valley RREC (TVS), Sand Mountain RREC (SMS), and the EV Smith Field Crops Unit (EVS). Headline® (pyraclostrobin) @ 6 fl. oz/A was applied at R1, R3, and/or R5 in factorial combinations with or without desiccation. A tank mix of Gramoxone Intelect® 2L (paraquat) @ 1 pt/A plus sodium chloride @ 3 lb a.i./A was applied to half the plots at pod maturity. All treatments were applied with flat fan nozzles in a volume of 20 gpa. Desiccated treatments were harvested 10 to 15 days after treatment (DAT), while non-desiccated plots were harvested after natural leaf drop (10 to 21 days later). Grain yield and harvest moisture data was recorded. Seed samples were also analyzed for foreign matter content and seed weight.

Desiccation materials: Three trials investigated the use of different harvest aid materials and combinations to alleviate leaf greening effects. Trials were conducted at SMS, EVS, and the Gulf Coast RREC (GCS). Test areas had three applications of Headline® @ 6 to 8 fl oz/A at R1, R3, and R5 to attempt to trigger greening effects. At pod maturity, ten harvest aid materials were applied with flat fan nozzles in a volume of 20 gpa. Trials were rated at 4 and 7 DAT, and harvested at 10 to 15 DAT. Grain yield and harvest moisture data was recorded. Seed samples were also analyzed for foreign matter content and seed weight.

Data was analysed at p=0.10

Results
The 2006 growing season was extremely dry in most of AL, particularly in spring/summer and again in early fall. Likely due to the 40-year record drought, strobiluron greening effects were much reduced in 2006. In only 1 of 3 locations were greening differences noted between strobiluron application timings and seasonal rate treatments. At TVS, leaf greening was significantly increased by strobiluron applications at R1, R3, and R1+R3 compared to untreated plots and applications at R5 and R3+R5. Harvested grain yield not affected by fungicide application at any location, but was increased by desiccation at all locations with an average of increase of 2.8 bu/A. Total moisture content was reduced from 16.3 to 12.7% at TVS, while it was unaffected by fungicide or desiccation at other locations. Trash and seed weight was little affected by treatments, although small differences were noted at EVS for fungicide application timing on 100-seed weights.

Leaf greening effects were also reduced in the Desiccation Materials trials, with the GCS location abandoned due to nearly complete leaf shed before treatments. All treatments increased leaf desiccation 4 and 10 days at EVS and at 10 DAT at SMS. At SMS and at 4 DAT, all treatments except Aim + crop oil increased leaf desiccation. Several treatments reduced total harvest moisture at EVS and SMS compared to the check. Treatments which included paraquat (Gramoxone Intence, Firestorm®) or sodium chloride as active ingredients were most effective in reducing harvest moisture. Harvested grain yield was significantly increased by three treatments at EVS, but not at SMS. There was no significant difference in trash content or seed weights between any treatments.

Conclusions
• In contrast to the 2005 growing season, very little effects of strobiluron on extended leaf greening was noted in 2006 in Alabama. At one location, increased strobiluron greening effects were noted with early applications of fungicide (R1 to R3). At this location only, grain moisture content was also reduced by desiccation.
• Several desiccant materials and combinations increased leaf desiccation and decreased harvest moisture compared to check treatments, and yield was also increased at one location.
• In all trials, trash content and seed weights were little affected by strobiluron fungicide applications or desiccant treatments.

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