

**EFFECTIVENESS OF HERBICIDES FOR TERMINATING COVER CROPS PRIOR TO PLANTING
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In recent years, cover crop acreage has increased significantly in the cotton producing regions of the United States due to several reasons, including efforts to improve soil health and reduce selection pressure placed on herbicides, while benefiting economically from federal conservation payments. The advantages of implementing cover crops into agricultural systems have been well documented; however, recent literature suggests that a poorly terminated cover crop can become detrimental to the yield potential of the cash crop during the growing season. In fall 2015 and 2016, a field study was conducted at the Arkansas Agricultural Research and Extension Center in Fayetteville to determine the most effective pre-plant herbicide options for terminating cover crops. Roundup PowerMax alone or in combination with other herbicides provided $\geq 97\%$ control of cereal cover crops such as wheat and cereal rye. In contrast, Roundup PowerMax alone provided 47% to 56% control of legume cover crops such as Austrian winterpea, hairy vetch, and crimson clover; however, control provided by Roundup PowerMax increased with the addition of Clarity. Liberty alone provided $\geq 80\%$ control of all legume cover crops, but was less effective, ranging from 48% to 79% on cereal species. Of the herbicide treatments evaluated, none provided effective control of oilseed rape, indicating that management of this species may be more difficult than others. In general, treatments provided improved control between 2 and 4 weeks after treatment, suggesting that sufficient time should be allotted between termination of cover crop and planting of cash crop. Overall, trends in biomass measurements were similar to levels of control provided by respective herbicide treatments. Future research should evaluate the synergism between Gramoxone and photosystem II-inhibiting herbicides on cover crop termination as well as preemergence options for controlling volunteer cover crops in-season.