

## **Interactions of Foliar Applied Herbicides with Residual Herbicides and Fungicides**

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Defining compatibility of pesticides in terms of pest control and crop injury important in developing pest management strategies. Research was conducted at one location in North Carolina during 2000 to compared weed control and peanut injury when Gramoxone SL (paraquat dichloride) at 8 oz/acre plus Basagran (bentazon) at 8 oz/acre was applied alone or with Dual Magnum (S-metolachlor) at 16 oz/acre, Outlook (dimethenamid-P) at 12 oz/acre, Warrant (acetochlor) at 48 oz/acre, Zidua (pyraoxasulfone) at 2.0 oz/acre, and Anthem Flex (carfentrazone plus pyroxasulfone) at 2.5 oz/acre when weeds had 1 to 3 leaves and peanut was 4 inches in diameter. Non-ionic surfactant at 0.125% (v/v) was included with all treatments. Peanut injury was greater when residual herbicides were applied with Gramoxone plus Basagran compared with contact herbicides alone but did not differ among residual herbicides 1 week after treatment (WAT) and no injury was observed 3 WAT. Relatively minor differences in common ragweed, common lambsquarters, eclipta, entireleaf morningglory, and Texas panicum control was observed 3 and 6 WAT, although in some instances control was greater when residual herbicides were applied with Gramoxone plus Basagran compared with control by contact herbicides applied alone. In other experiments conducted twice, Texas panicum control by Clethodim (clethodim) at 16 oz/acre was similar when applied alone or with the fungicides Miravis (adepydin) at 3.2 oz/acre, Miravis plus Elatus (azoxystrobin plus benzovindiflupyr) at 9 oz/acre, Miravis plus Convoy (flutolanil) at 32 oz/acre. In a separate experiment also conducted twice, Texas panicum control by Clethodim did not differ when applied alone or with Anthem Flex (2.5 oz/acre), Dual Magnum (16 oz/acre), or Zidua (2.0 oz/acre). Crop oil concentrate at 1.0% (v/v) was applied with all treatments. These results suggest that residual herbicides applied with Gramoxone plus Basagran in most cases will provide similar weed control and crop injury. These results also indicate that Clethodim and Miravis plus either Elatus or Convoy are compatible and that the residual herbicides Anthem Flex, Dual Magnum, and Zidua will not adversely affect grass control. Additional research is needed to determine if these herbicides affect disease control when applied with Miravis plus either Elatus or Convoy.