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Glyphosate-resistant *Amaranthus palmeri* biotypes in Argentina: 2,4-D choline vs. Dicamba DMA dose response in postemergence applications.

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Glyphosate-resistant Amaranthus biotypes (A. palmeri and A. quitensis) continue to spread across the major crop production regions of Argentina. Since it is possible that both Enlist E3™ (glufosinate-, glyphosate- and 2,4-D- tolerant), and Xtend® (glyphosate- and dicamba- tolerant) soybean varieties may be available in the near future, an objectives is to determine how effective these technologies are on *Amaranthus palmeri* (AMAPA). A starting point is to determine dose responses of AMAPA to 2,4-D and dicamba applications. Four field trials were conducted on AMAPA in Argentina (2 trials near Vicuña Makenna, Córdoba, during 2014 and 2015 crop season and 2 trials near Monte Buey, Córdoba, in 2015 and 2016 crop season) utilizing Enlist™ herbicide (GF-3073; 2,4-D choline 456 g ae/L) and dicamba dimethylamine salt (DMA). Treatments were applied postemergence to AMAPA between 5 and 20 cm in height. Visual percent control evaluations were made 35 days after application. The 2,4-D choline at 720, 900 and 1100 g ae/ha provided 60, 79, and 80%, respectively, AMAPA control that was superior to control provided by dicamba at 140, 280, and 560 g ae/ha provided 25, 42; and 67%, respectively. The addition of glyphosate at 1200 g ae/ha improved all 2,4-D and dicamba treatments compared to 2,4-D and dicamba treatments applied without glyphosate. Glufosinate alone at 600 g ae/ha provided control 70%. The addition of 2,4-D choline at 900 g ae/ha to glufosinate significantly ($P<0.05$) increased AMAPA control to 86%. Fomesafen at 250 g ae/ha with glyphosate at 1200 g ae/ha only provide 36% AMAPA control. Utilization of 2,4-D choline in Enlist E3™ soybean crop programs provides a valuable tool to control glyphosate-resistant AMAPA biotypes. Glufosinate applied with 2,4-D choline is an excellent option to control AMAPA in Enlist™ soybean program control technology.

Palavras-chave: *Amaranthus palmeri*, 2,4-D choline, dicamba DMA, dose response, glyphosate-resistant biotypes.