**Peanut Response to Foliar Applied Pyroxasulfone Tank-Mixtures.**

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Pyroxasulfone 85WG (also known as KIH-485) is a residual herbicide that is being developed for use in several agronomic crops such as corn, soybean, wheat, and sunflower. While pyroxasulfone is highly effective for the control of troublesome annual weeds such as Palmer amaranth, Texas millet, and large crabgrass, little is known about peanut tolerance to pyroxasulfone in weed management systems. Therefore, field trials were conducted in Georgia during 2009 and 2010 to evaluate pyroxasulfone applied POST (12-22 days after planting) with and without tank-mix partners. Herbicide treatments included a factorial arrangement of pyroxasulfone rate (0 and 4 oz/A) and tank-mix partner (none, paraquat 2SL at 8 oz/A; paraquat 2SL at 12 oz/A + bentazon 4SL at 8 oz/A; paraquat 2SL at 12 oz/A + acifluorfen/bentazon 4SL 1.5 pt/A; imazapic 2AS at 4 oz/A; and lactofen 2SC at 12.5 oz/A). Treatments were replicated three or four times and plot areas maintained weed-free. Visual estimates of peanut stunting were recorded throughout the growing season. Since peanut herbicides have been associated with an increase in tomato spotted wilt virus (TSWV), TSWV incidence was recorded (2010 trial only) prior to digging by counting the number of disease loci per linear row in 1 ft sections. Peanut yield was recorded and adjusted to 10% moisture. All data were subjected to ANOVA and means separated using Fisher’s Protected LSD Test (P≤0.05) when appropriate. In 2010, the addition of pyroxasulfone (4 oz/A) to herbicide systems increased peanut stunting 6 days after treatment (DAT) by 8%. However, peanuts recovered by 29 DAT. In systems where paraquat (12 oz/A) was included, 30 to 43% peanut stunting was observed 2-6 DAT. Peanut recovered completely by 69 DAT. TSWV incidence was not influenced by pyroxasulfone. Regardless of tank-mix partner, the addition of pyroxasulfone to herbicide systems did not negatively influence peanut yield.