Use of Starter Fertilizer for Reduced-Tillage Grain Sorghum Production. (S08-gordon164820-Poster)

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Abstract:

Minimum tillage systems have proven to be effective in reducing soil erosion, however, large amounts of surface residue found in reduced-tillage systems can adversely affect early-season growth, nutrient uptake, and yield of crops. Starter fertilizers have proven effective in overcomming these problems. This 3-year experiment evaluated the effects of starter fertilizer in both no-tillage and reduced-tillage grain sorghum production. The experiment was conducted near Belleville, Kansas on a soil high in available phosphorus. Methods of starter fertilizer application included placement 5 cm to the side and 5 cm below the seed and dribbled in a band on the soil surface 5 cm to the side of the seed row. Liquid starter treatments consisted of N and P combinations. Starter treatments containing either N or P applied alone and a no starter check also were included. Additional N was side dressed so that all plots received 157 kg N/ha. In both tillage systems, the use of starter fertilizer increased grain yield, increased early season growth, and decreased grain moisture content at harvest. Dribbling starter fertilizer on the soil surface was as effective as 5x5 placement. Starters containing higher amounts of N in combination with P gave the greatest early growth and grain yields.

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