Impact of SOILPAM™ TRACKLOG on Center Pivot Irrigation Track Rut Depth

Study ID: 0290181201801
County: Webster and Franklin
Reps: 25
Irrigation: Pivot

Introduction: SOILPAM™ TRACKLOGS, marketed by EarthChem, are solid polyacrylamide (PAM) contained in a plastic mesh bag. The bags are installed between the wheels of pivot irrigation system towers. As irrigation water and rain strike the bag, the PAM slowly melts and drips to the ground into the pivot wheel track. PAM is a synthetic polymer that acts as a strengthening agent and soil binder. The treated soil particles become larger and heavier, making them harder for water to move them.

TRACKLOGS were installed to center pivot irrigation system towers and monitored in 5 fields in 2017 and 3 fields in 2018. The fields were located in Webster and Franklin counties. The participating farmers were instructed to install TRACKLOGS between the wheels of selected towers of their pivot system. The pivot was then operated as normal. The depth of all wheel tracks were measured after harvest by collecting three subsamples in each tower span. Rut depth from towers with TRACKLOGS were compared to towers without.

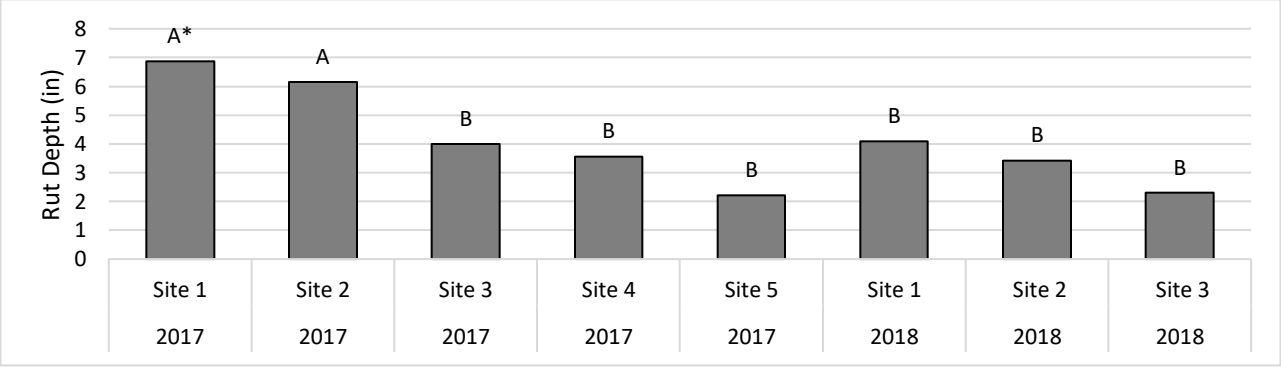
Results: Data were analyzed using the GLIMMIX procedure in SAS 9.4 (SAS Institute Inc., Cary, NC). Mean separation was performed with Tukey's HSD. There was no interaction between the site and the treatment (site x treatment P=0.1814); therefore, these factors are reported separately.

SOILPAM™ TRACKLOGS Treatment:

	Rut Depth (in)
Check	4.3 A*
SOILPAM™ TRACKLOG on Pivot Tower	3.8 A
P-Value	0.113

*Values with the same letter are not significantly different at a 90% confidence interval.

Figure 1. Differences in rut depth between the testing sites. Because there was no difference in rut depth for the SOILPAM™ TRACKLOG treatment and the untreated check, the rut depths reported by site represent the average rut depth across both treatments.



*Values with the same letter are not significantly different at a 90% confidence level.

Summary:

- There was no difference in rut depth where SOILMAP™ TRACKLOGS were used versus where they were not used.
- There were differences in rut depth between the sites tested.

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