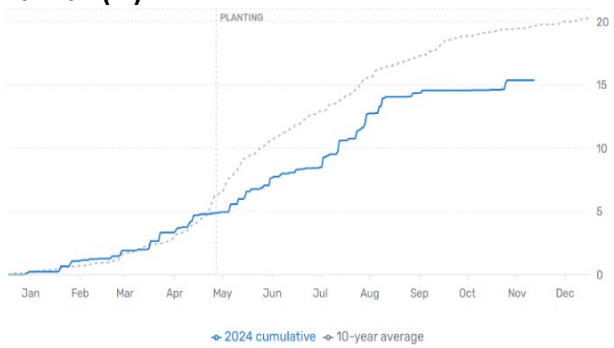
Compost Tea in Corn

Study ID: 1401105202401
County: Kimball
Soil Type: Altvan Fine sandy loam
Planting Date: 5/11/24
Harvest Date: 10/22/24
Population: 33,500
Row Spacing (in): 30”
Hybrid: Channel® 192-08VT2PRIB, 189-64VT2RIB
Reps: 6
Previous Crop: Wheat
Tillage: Strip-till
Herbicides: ***Pre:*** 10 oz/ac Verdict® + 28 oz/ac RT 3®
Post: 3.2 oz/ac Zidua® + 26 oz/ac Roundup® + 8 oz/ac Clash™ Selective + 3.2 oz/ac Voyager®
Seed Treatment: Company standard
Foliar Insecticides: None
Foliar Fungicides: None

Fertilizer: 10 gal/ac 10-34-0, 25 gal/ac 28-0-0-5 applied during strip-till. 3 gal/ac 10-34-0 and 1 qt/ac zinc applied in-furrow. 135lbs chemigated mid-season.
Irrigation: Pivot
Rainfall (in):



Introduction: Compost tea is a liquid solution made by steeping compost in water. It is used as a natural fertilizer and soil conditioner for plants, providing a boost of beneficial microbes, nutrients, and organic matter leading to higher yields and better overall crop performance. Aerated compost tea was used in this study and this type involves using an air pump or aerator to oxygenate the water while it steeps the compost. A static pile compost was acquired from Soil Works, LLC in Yankton, SD and brewed at the rate of 10 gallons compost to 1500 gallons of water for 1 hour. The product was filtered then sprayed at a rate of 20 gal/ac. This study compared yield with and without compost tea.

Soil Test Results:

Baseline Soil Sample 0-6" (May 2024):

pH	OM LOI %	Nitrate–N ppm N	P ppm	S ppm	K ppm	Ca ppm	Mg ppm	Na ppm
6.7	1.9	12.0	34.4	5.8	169	440	88	19

Results:

	Yield (bu/ac)†	Marginal Net Return‡ ($/ac)
Channel® 192-08VT2RIB + Tea	193 A*	797 B
Channel® 192-08VT2RIB Check	208 A	904 AB
Channel® 189-64VT2RIB + Tea	215 A	892 AB
Channel® 189-64VT2RIB Check	216 A	938 A
P-Value:	0.225	0.061

*Values with the same letter are not significantly different at a 90% confidence level.
†Bushels per acre corrected to 15.5% moisture.
‡Marginal net return based on $4.35/bu corn and $42/ac for the tea (including application).

Summary:

- There were no significant differences in corn yield between the tea treatments and the different hybrids.
- There were significant differences between the treatments, with the 189-64VT2RIB check having a higher net return than the 192-08VT2RIB treatment with compost tea.