# RESEARCH UPDATE: MLC CORN

## TRIAL DETAILS

**LOCATION**
Ewing, IL

**COOPERATOR**
Extension Agent

**CORN VARIETY**
P1077AM (110 day maturity)

**AVG. SEED RATE**
30,000

**PLANT DATE**
May 24, 2021

**HARVEST DATE**
November 1, 2021

### TRIAL DESCRIPTION AND EXPERIMENTAL DESIGN

This field trial was replicated 5 times and arranged in a strip-plot design and non-irrigated. Soil properties: pH: 7, CEC: 17.5 meq/100g, OM: 2.2%, BS: K 1.8%, Ca 72%, and Mg 9%.

### TREATMENTS

| Treatment | Rate | Application | Row Spacing | Plot Size | Reps |
|---|---|---|---|---|---|
| **MLC** | 2 qt/A | In-furrow | 30 in | 20ft x 100 ft | 5 |
| **Control** | -- | -- | 30 in | 20ft x 100 ft | 5 |

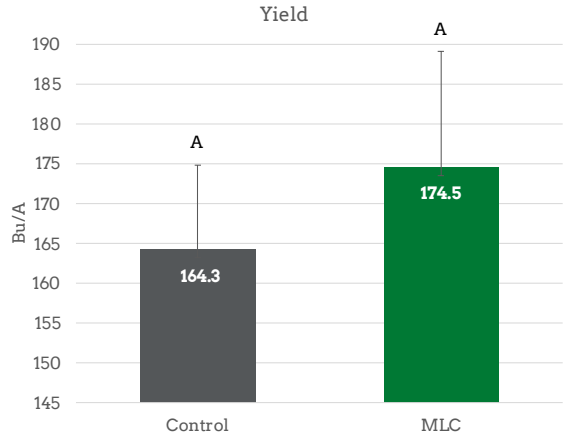
### MAINTENANCE

All plots received a burndown application on 4/16/2021 of Roundup PowerMax 32 oz/A and Ammonium Sulfate 17lb/100 gal. Pre-emergence herbicide was applied on 5/24/21 including Roundup PowerMax 40 oz/A, Aatrex 4L 32 oz/A, Acuron 80 oz/A, 2,4-D LV4 16 oz/A, and Ammonium Sulfate 17 lb/100gal. Fertility was applied to all plots and consisted of a pre-plant (4/23/21) application of 0-0-60 at 150 lb/A and a pre-emergence application (5/27/21) of urea with Agrotain at 200 N/A.

### TRIAL RESULTS SUMMARY

**Monty's Liquid Carbon (MLC) significantly increased stand population by *6.25% (Fig. 3A)*, leaf tissue levels of K and B, and soil K and Bs K% within 30 days after application (DAP). MLC increase yield by an average of *10.2 bu/A (Fig. 1)*.** MLC increased soil K and Bs K% by 22.3% and 21.8% compared to the control plots, respectively (Fig 2A and 2B). An average increase of 21% and 19% of K and B plant tissue content was measured 30 DAP (Fig 2C and 2D). MLC decrease soil compaction in the root zone from 6-11 inch depth (Fig. 3B). An average ROI of *$45.62/A* was achieved from 2 qt/A application of MLC in-furrow.

### RESULTS




| Treatment | ROI/Control per Acre |
|---|---|
| MLC | $45.62 |

**Figure 1.** Average yield in Bu/A and ROI calculated at $5.45 bu/A

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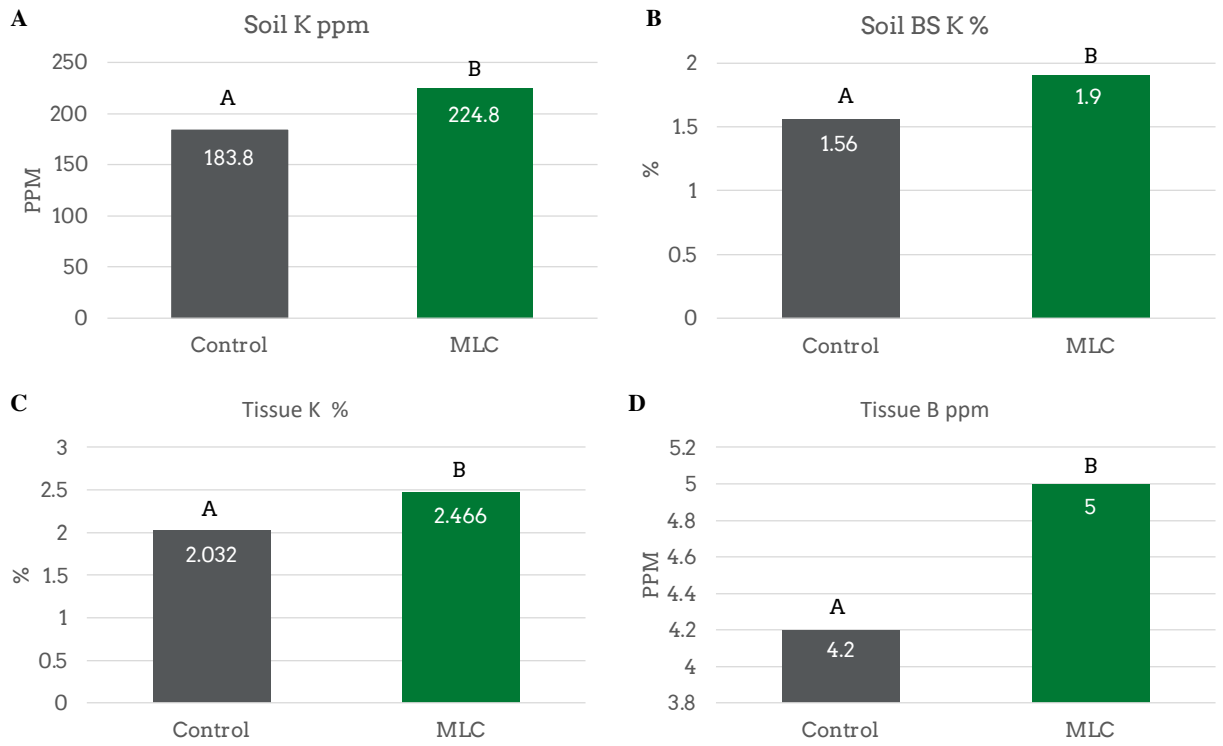


**Figure 2. Soil and plant nutrients that are significantly increased 30 days after MLC application.** (A) Soil potassium levels ppm, (B) soil base saturation potassium %, (C) tissue potassium levels %, (D) tissue boron levels ppm. Letters above bars that are different represent statistical significance at a P-value of 0.10.

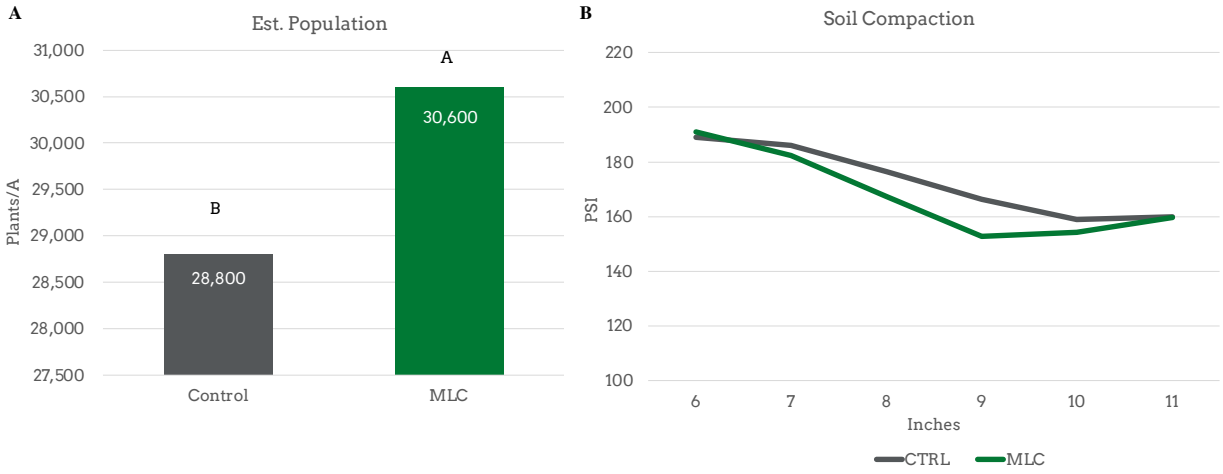


**Figure 3.** Average plant population represented in plant/A (A). Soil compaction levels in PSI from 6-11 in soil depth.