2012 LTER Agronomic Protocol Kellogg Biological Station

Main Site Treatment 8nt: No-till Agriculture on Historically Never Tilled Land (T8nt)

Growing Season: 2012

Rotation: Soybeans – Winter Wheat — Corn Tillage: Conventional

Tillable Acres: 0.77 Current Crop: Soybean Previous Crop: Corn Yield Goal: 40 bu/A

Planting Date: May 2012 Planting Population: 180,000 seeds/A Variety: Pioneer 92Y30

Row Spacing: 15 inches Planting Depth: 1 inches Insecticide Used: None

Cover Crop: None

Harvest Date: September – October 2012

Tillage Operations Applied Last Year:
No-till. Corn planted in June 2011. Weed pressure controlled with an application of Roundup + AMS in June. Fertilized with 130 lbs/A N applied as 28% fertilizer at the end of June.

Tillage Operations and Fertilizer Applied This Year:
Tillage: No-till. DO NOT TILL.

Cover Crop: 2011 None

Fertilizer: Fertilizer the same as T2.

Weed/Insect Control:

Soil Sample Analysis: Results from samples taken in the autumn of 2008.

pH: **R1** 5.8, **R2** 5.7, **R3** 5.9, **R4** 5.9, **R5** 5.7, **R6** 6.0

Lime Index: **R1** 68, **R2** 67, **R3** 67, **R4** 68, **R5** 67, **R6** 69

Nitrogen (N):

Phosphorus (P): ppm **R1** 25, **R2** 34, **R3** 28, **R4** 35, **R5** 18, **R6** 43

Potassium (K): ppm **R1** 100, **R2** 86, **R3** 95, **R4** 105, **R5** 89, **R6** 45

Magnesium (Mg): ppm **R1** 131, **R2** 139, **R3** 167, **R4** 157, **R5** 161, **R6** 142

Calcium (Ca): ppm **R1** 914, **R2** 770, **R3** 870, **R4** 863, **R5** 783, **R6** 725

C.E.C.: (meq/100 g) **R1** 8.3, **R2** 8.8, **R3** 9.6, **R4** 8.3, **R5** 9.1, **R6** 6.1

% O.M.:

Others:

Fertility -- Fertilizer Recommendation:

Lime ton/A: **Avg. = : R1 , R2 , R3 , R4 , R5 , R6**

Nitrogen lb/A: **Avg. = : R1 , R2 , R3 , R4 , R5 , R6**

P_2O_5 lb/A: **Avg. = : R1 , R2 , R3 , R4 , R5 , R6**

K_2O lb/A: **Avg. = : R1 , R2 , R3 , R4 , R5 , R6**

Other:

Differences from Prior Rotations:

In both 2010 and 2011, the main crop was corn. The rotation did not follow the main site in 2010 and 2011 but was adjusted to follow the crop the was in the interaction plots.

Comments:

This is a working protocol used for planning purposes. Due to potential changes in chemicals, fertilizer, varieties planted, planting dates etc... please refer to the agronomic field log for actual field operations that take place during 2012.

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Main Site Treatment 8: Mid-succession Never Tilled (T8)

Growing Season: 2012

A. Annually mow entire plots in the fall.

B. Make sure sample stations are removed prior to mowing. Re-flag the sampling stations after mowing is completed.