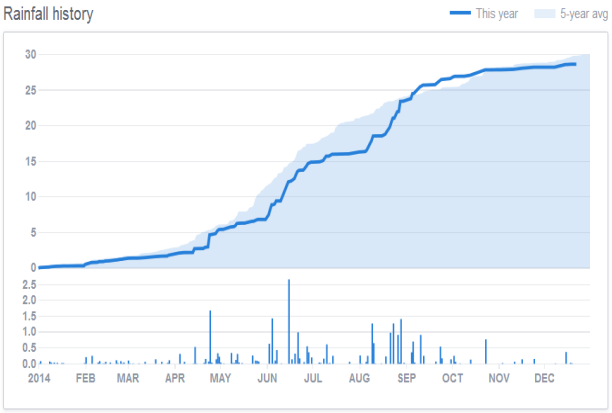
Nebraska On-Farm Research Network

Polymer on Corn

Study ID: 011035201401

County: Clay
Soil Type: Hastings and Butler silt loam
Planting Date: 4/21/2014
Harvest Date: 11/3/2014
Population: 19,000
Row Spacing: 30”
Hybrid: DKC 65-66
Reps: 4
Soil Test Values: not available
Previous Crop: Corn
Tillage: No-Till
Herbicides:
Pre: 1.5 qt/ac Lexar EZ, 3.6 pt/ac Halex GT on 4/22/14

Post: Unknown
Insecticides/Fungicides: none
Fertilizer: 130 lb UAN 32%, 5 gal 10-34-0, and 1 pt Zn-EDTA on 4/22/14
Irrigation: Not irrigated



Introduction: These producers were asked to try an experimental polymer product used in the fracking industry on corn. The objective was to determine any yield effects of this polymer product (called Agra-213) on corn. The company desired 90lbs per acre of this product to be applied but we were given a smaller amount and it was a granular product. The product was applied with a lawn spreader and we measured the applied product to be 2.5 lbs per 20’ of row. The product was applied to four rows at 20’ lengths in a paired comparison design. The technical data sheet for the product is supplied.

Sponsored by: University of Nebraska Lincoln

In partnership with: Soybeans Nebraska Soybean Board; Nebraska Corn Board; Nebraska Corn Growers Association

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Energy & Environmental Services
Oilfield Chemicals & Coatings

TECHNICAL DATA SHEET

Agra-213 Product Line

PRODUCT OVERVIEW/DESCRIPTIONS: Soil Conditioner-Nutrient Supplement

Soil quality continues to degrade over many parts of the country. Various additives have depleted the natural microbial population, which are necessary to process nutrients (N-P-K) in order for them to be available for uptake into plants and crops. As a result, overuse of conventional fertilizers occurs, which causes other soil issues such as salt and phosphate build-up, not to mention the added cost.

The *AGRA-213* products are a blend of a number of **exclusive** components designed to correct soil problems and provide basic nutrient requirements of plants and crops. The primary ingredients include the following;

- A proprietary humic acid extract, 98.5% Pure, 100% Active
- Byo-Gon's Patented Microbial accelerant
- A blend of essential soil microbes, 39.8-54.6 billion Cfu's/Gallon

The products are designed specifically for Agricultural and Home garden applications. They have the following benefits;

- Detoxifies the soil from the full spectrum of accumulated toxins associated with conventional fertilizers and regular chemical products.
- Increases plant beneficial microbes within the soil
- Serves as an effective chelating agent, magnifying the availability of vital plant nutrients, including nitrogen, calcium, phosphorus, potassium and trace minerals.
- Increases nutrient and water storage through more efficient cellular uptake
- Improve organic soil structure through humic acid technology
- Reduces disease pressure via beneficial microbial activity that breaks down both carbohydrates and protein components of harmful bacteria and disease pathogens.
- Contains food grade ingredients that are safe for use around animals, fish and humans

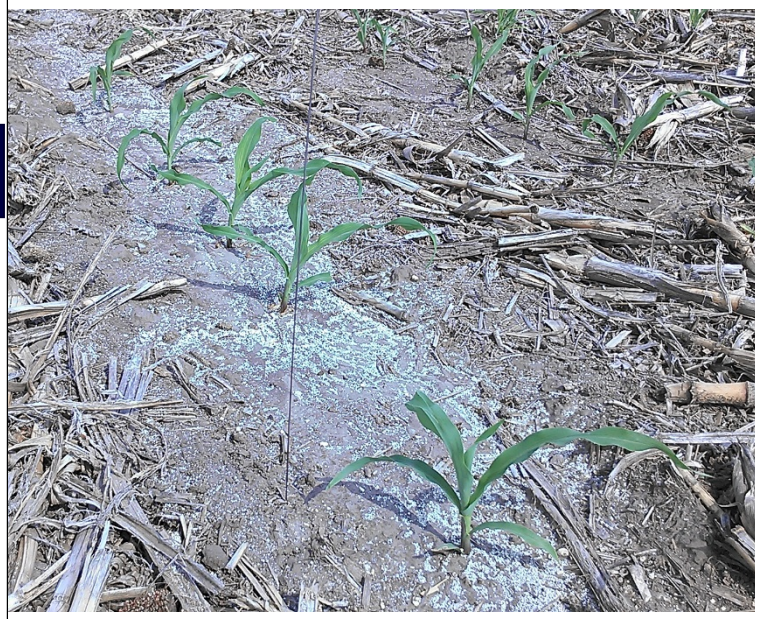

Figure 1: Applied product on corn.

Results:

	Yield† (bu/acre)	Stalk Rot (%)	Harvest Pop
Check	165 A*	1.3 A	17,500 A
Agra-213	170 A	2.5 A	17,125 A
P-Value	*0.8569*	*0.3910*	*0.6500*

†Bushels per acre corrected to 15.5% moisture.

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

Summary: There were no statistical significances between Agra-213 and the check treatment for yield, stalk rot, or stand counts. There is also no cost analysis for this product as it is an experimental product and not available on the market.

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