NC STATE UNIVERSITY

Earthgen215 on Corn at the Farm and on Soybean at Farm

Materials and Methods

Study Design

Single replication comparison trials were conducted on corn and soybean to determine the impact of applications of Earthgen215 applied prior to planting. The corn test was conducted on the Farm near Jamesville, NC on a Rains fine sandy loam. This side-by-side comparison was conducted on an 27.9-acre field with ½ of the field (15.7 acres) having Earthgen215 applied at the recommended a rate and the other ½ (12.2 acres) where Earthgen215 was not applied. In both the applied area of the field and the untreated check area DeKalb 'DKC68-35' was planted at a seeding rate of 28 000 seeds acre^{-1} on 17 May. In field partition where Earthgen215 was applied plots were planted using preplant fertilizer consisting of 20-20-20 broadcast at the rate of 600 lb acre^{-1}. No other fertilizer was applied to this area. In the part of the field where no Earthgen215 was applied plots were planted using the same preplant fertilizer consisting of 20-20-20 broadcast at the rate of 600 lb acre^{-1}. At layby (V7 on June 15) 30% UAN was broadcast at planting at a rate of 33.6 gal acre^{-1}. In both the treated and untreated plots acetachlor plus atrazine (2 qt acre^{-1}) was applied at planting and Steadfast Q (1.5 oz acre^{-1}), atrazine (1 qt acre^{-1}) and Status (2.5 oz acre^{-1}) were applied at V6. Excellent season-long weed control was noted as a result of these herbicide applications.

The soybean test was conducted on Farms managed by near Columbia, NC on a Hyde silt loam. This side-by-side comparison was conducted on two 40 acre cuts with one cut receiving the Earthgen215 application and the other not. In both cuts DynaGro "S52XT91' soybean were planted at a seeding rate of 120 000 seeds acre^{-1}. No preplant or in-season fertilizer was applied to either the treated or nontreated cuts. Weed control was accomplished by applying Prefix (2 pt acre^{-1}) at planting (17 May) and Roundup (1 qt acre^{-1}) applied at V3. These treatments provided excellent season-long weed control.

Earthgen215 applications were made using the recommended rates and procedures by the growers.

Measurements

At the Farm the corn in both the treated and untreated areas of the field was harvested using a John Deere Combine with an 8 row header. The corn from each area was weighed using a standard weigh wagon. Moisture and test weight samples were pulled at the time of harvest from each area and processed using a Dickey-John GAC 6000 moisture tester. At Farms

the soybeans were harvested using a combine with a calibrated yield monitor. Average yields and moistures for each cut recorded by the yield monitor are used in this report.

Results

Comparison of Corn Yield Between the Treated and Untreated Field Partitions

Dry weather in late May and June limited corn yield potential at this location. Even so, the EarthGen215 application on corn at the Farm increased corn yield by 18.4 bu acre^{-1} while increasing test weight by 1.4 lb bu^{-1}. The corn yield in Earthgen215 treated area which did not receive any layby fertilizer the yield was 126.5 bu acre^{-1} (Figure 1). In comparison, the untreated field area which received layby fertilizer averaged 108.1 bu acre^{-1}.

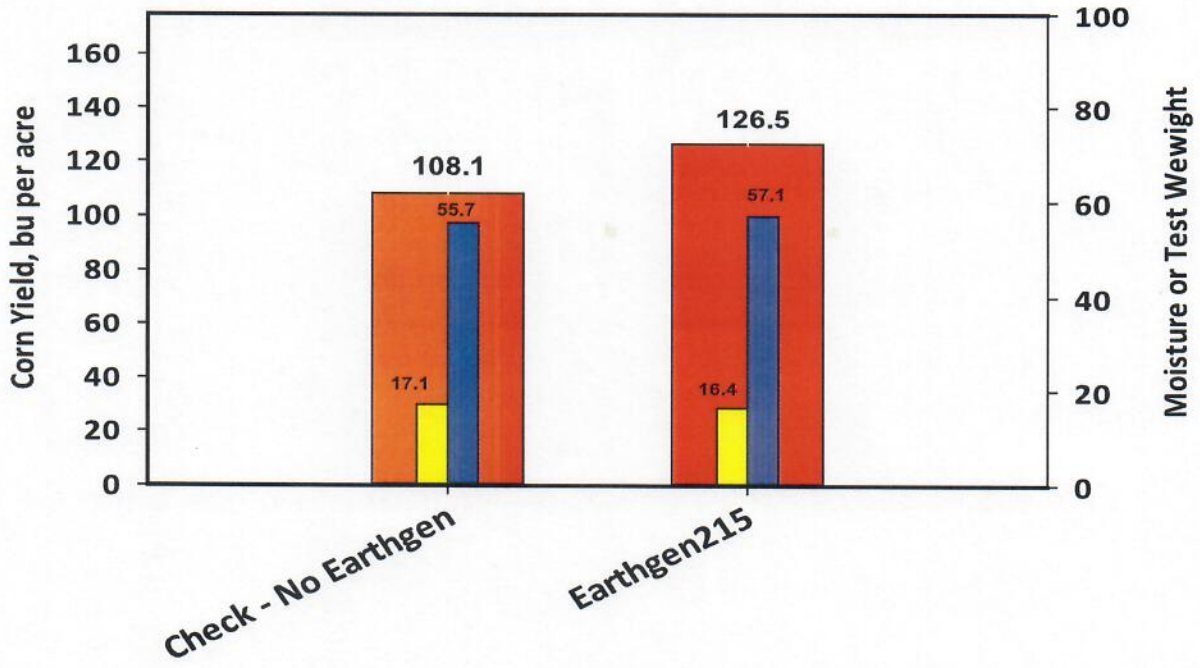

Figure 1. Comparison of corn yield between the field partition where Earthgen215 was applied and the partition where no EarthGen215 was applied.

Comparison of Soybean Yield Between the Treated and Untreated Cuts

Weather conditions at the _____ field site were good to ideal with the only stress coming from heavy precipitation in mid July. Soybeans in the Earthgen215 cut showed more pods per plant and better root development (Figures 2 and 3). The Earthgen215 application on soybean at the _____' Farm increased soybean yield by 14.5 bu acre^{-1}. The soybean yield in Earthgen215 treated area was 88.7 bu acre^{-1} (Figure 4). In comparison, the untreated field cut averaged 73.3 bu acre^{-1}.

Figure 2. Soybean plants from the cut receiving EarthGen215 and the cut without EarthGen215

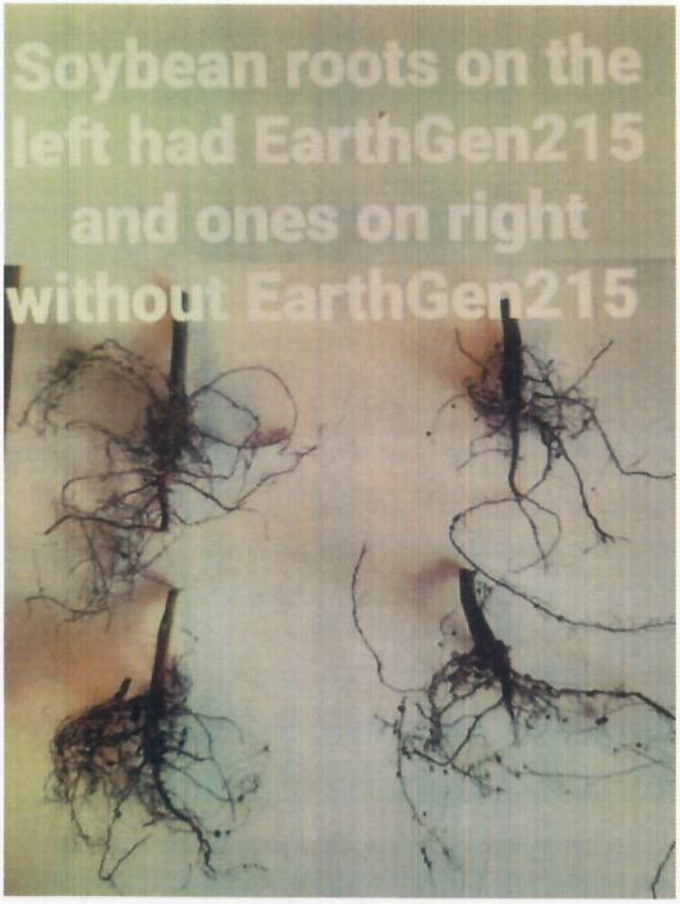

Figure 3. Extracted roots from soybean plants from the cut receiving EarthGen215 and the cut without EarthGen215

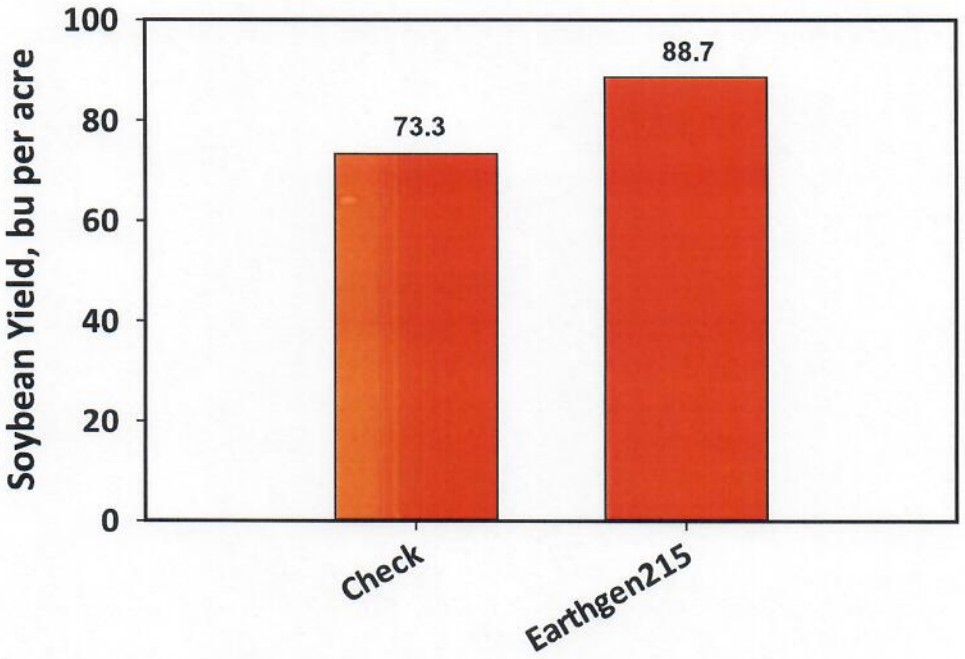

Figure 4. . Comparison of soybean yield between the field cut where Earthgen215 was applied and the cut where no EarthGen215 was applied.