

Nebraska On-Farm Research Network

Years: 2012
Title: Plant Population
Crop: Corn
Study ID: 035141201201
County: Platte
Objective: To determine & document the effect of plant population on the profitability of corn production.
Treatments: 24k vs 29k

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Information: 2012

Hybrid: Hoegemeyer 7711 Hx/LL/RR - Rainfed
 Hybrid: Hoegemeyer 7876 AM-R (refuge in the bag)
 Before Silty Clay Loam In-Season Rainfall

Planted: 5/5/12
 Harvested: 9/18/12

PRE

Corvus 4 oz
 Atrazine 2 pt

POST

Glyphosate 32 oz
 Laudis 2 oz

NH3 @ 100lbs
 10-34-0 5 gal

| Month | Date | Rain (") |
|--------------|------|-------------|
| May | 2 | 0.4 |
| May | 3 | 0.45 |
| May | 6 | 0.7 |
| May | 24 | 1.5 |
| May | 28 | 2.1 |
| May | 31 | 0.2 |
| June | 21 | 0.4 |
| June | 23 | 0.5 |
| August | 1 | 0.3 |
| August | 4 | 0.3 |
| August | 8 | 1 |
| September | 13 | 0.5 |
| September | 18 | 0.4 |
| Total | | 8.75 |

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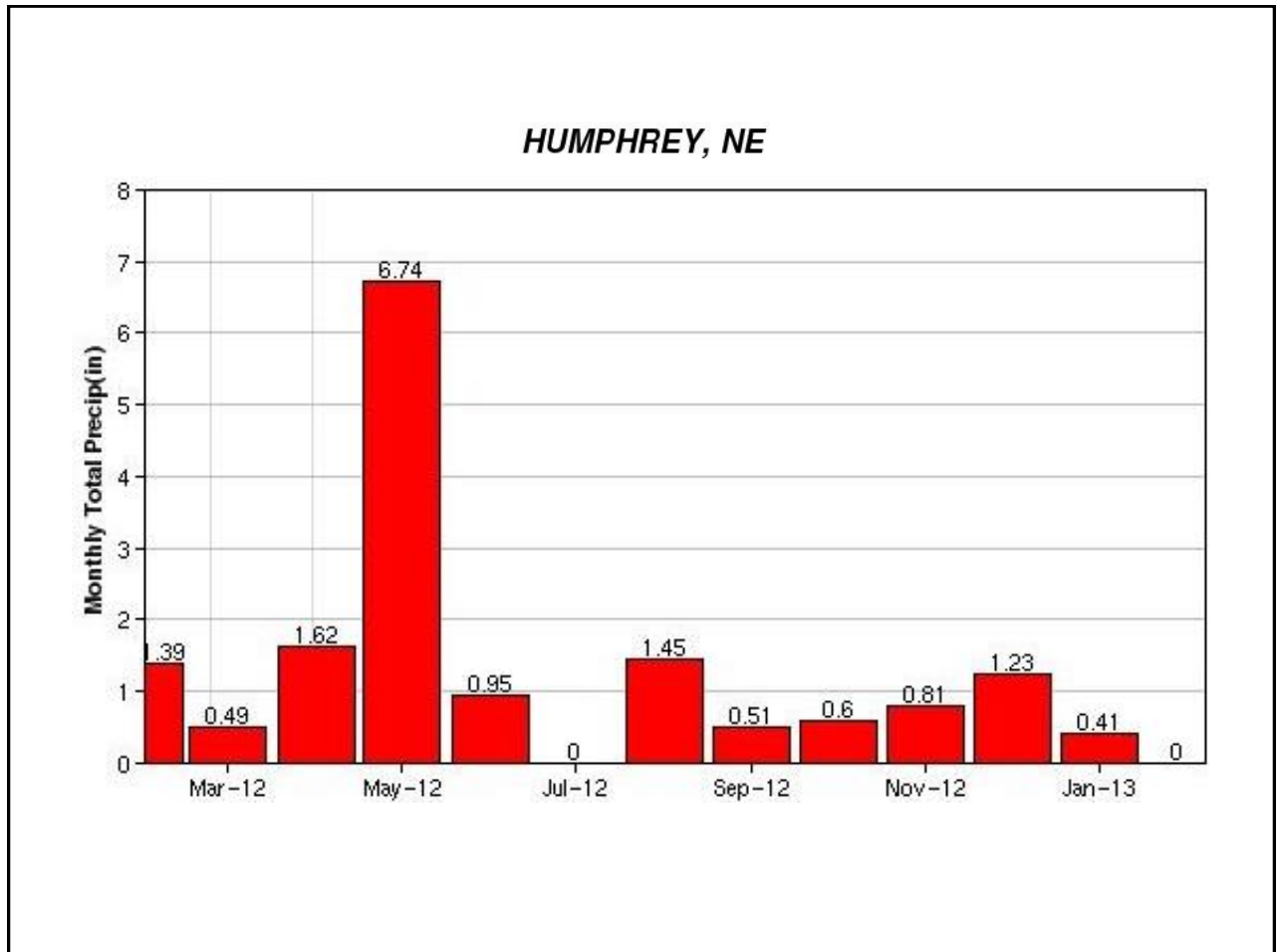
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| Results: 2012 | | Corn-Yield Population | | |
|---------------------------------------|-----------|------------------------------|--------------|------------------|
| <u>Hoegemeyer (H7876 & H7711)</u> | | <u>24k</u> | <u>29k</u> | |
| Population | 82.1 | 82.3 | | |
| Cost/Acre | --- | \$13.05 | | |
| Prob>/T/ | 0.9552 ns | A | A | |
| | | <u>H7876</u> | <u>H7711</u> | |
| Hybrid | 82.3 | 82.2 | | |
| Cost/Acre | \$73.49 | \$64.84 | | |
| Prob>/T/ | 0.9851 ns | A | A | |
| Population * Hybrid | | <u>Yield</u> | <u>Group</u> | <u>Cost/Acre</u> |
| 29k H7876 | | 84.5 | A | \$80.42 |
| 24k H7711 | | 84.2 | A | \$58.73 |
| 29k H7711 | | 80.2 | A | \$70.96 |
| 24k H7876 | | 80.0 | A | \$66.56 |
| Prob>/T/ | 0.2613 ns | | | |

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Results: 2012

Corn-Moisture Population

| | <u>24k</u> | <u>29k</u> |
|---------------------|--------------|--------------|
| Moisture | 22.7 | 19.9 |
| Prob>/T/ 0.0010*** | --- | |
| | A | B |
| Moisture | <u>H7876</u> | <u>H7711</u> |
| Prob>/T/ 0.7868 ns | 21.3 | 21.4 |
| | A | A |
| Population * Hybrid | Moisture | Group |
| 24k H7876 | 24 | A |
| 24k H7711 | 21.5 | B |
| 29k H7711 | 21.3 | B |
| 29k H7876 | 18.6 | C |
| Prob>/T/ 0.0015*** | | |

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Results: 2012

| | Corn-Harvest Population | |
|---------------------|-------------------------|-------------------|
| | <u>Population</u> | <u>Population</u> |
| | <u>24k</u> | <u>29k</u> |
| Harvest Population | 21.9k | 26.7k |
| Prob>/T/ 0.009*** | B | A |
| | <u>H7876</u> | <u>H7711</u> |
| Harvest Population | 24.7k | 23.9k |
| Prob>/T/ 0.3365 ns | A | A |
| Population * Hybrid | Harvest Population | Group |
| 29k H 7876 | 27.7k | A |
| 29k H 7711 | 25.8k | A |
| 24k H7711 | 22.0k | B |
| 24k H7876 | 21.8k | B |
| Prob>/T/ 0.2567 ns | | |

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Results: 2012

Corn-Test Weight Population

| | <u>24k</u> | <u>29k</u> |
|---------------------|--------------|--------------|
| Test Weight | 54.3 | 55.5 |
| Prob>/T/ 0.0398** | B | A |
| | <u>H7876</u> | <u>H7711</u> |
| Test Weight | 54.8 | 55.1 |
| Prob>/T/ 0.5479 ns | A | A |
| Population * Hybrid | Test Weight | Group |
| 29k H7876 | 56.0 | A |
| 29k H7711 | 55.1 | AB |
| 24k H7711 | 55.1 | AB |
| 24k H7876 | 53.5 | B |
| Prob>/T/ 0.0398** | | |

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Summary: (2012) In this study for 2012, Hybrid Hoegemeyer 7711 and Hoegemeyer Aquamax 7876 were planted no-till into soybean residue with rainfall in 2012 of 8.7" (according to NE Rain). There was no statistical yield difference amongst populations of 24K vs. 29K when the hybrids were combined, no statistical yield differences between the two hybrids, and no statistical hybrid by population interactions. Hybrid Hoegemeyer 7711 at 24K was the most economical of all other combinations (assuming \$7/bu corn price).

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