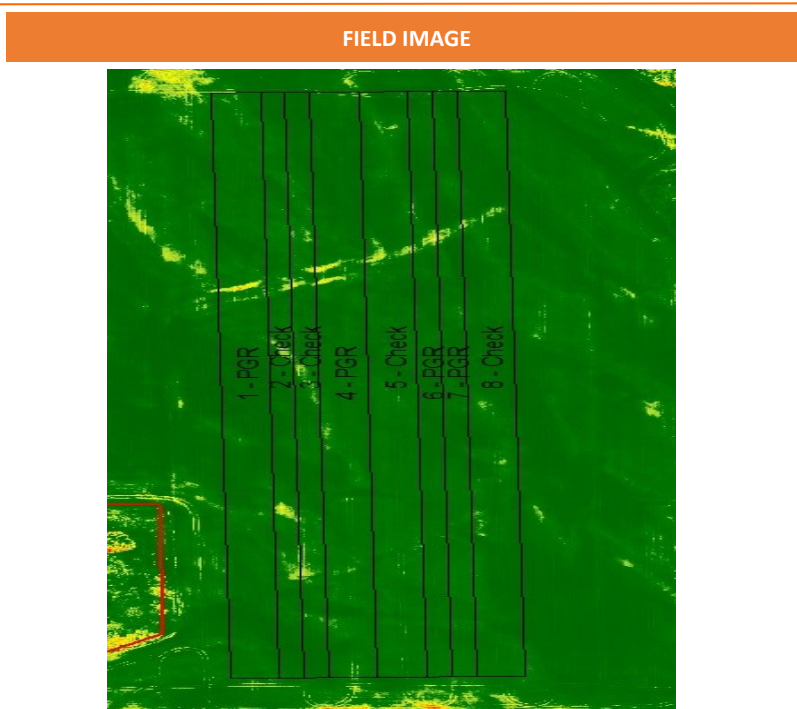


## Wheat Plant Growth Regulator

Trial ID: 2019-WPGR09 — R.M. of Woodlands

**Objective:** The purpose of this project is to quantify the impact of the plant growth regulator Manipulator™ 620 (chlormequat chloride) on plant height, lodging, yield and quality of spring wheat

| TRIAL INFORMATION    |                                |
|----------------------|--------------------------------|
| Treatment            | Manipulator™ 620 vs. Untreated |
| Location             | Marquette                      |
| Previous Crop        | Soybeans                       |
| Soil Texture         | Clay                           |
| Tillage              | Conventional                   |
| Planting Date        | May 01, 2019                   |
| Variety              | Faller                         |
| Row Spacing          | 10"                            |
| Seeding Rate         | 120 lbs/ac                     |
| Residual N           | ---                            |
| Fertilizer (N-P-K-S) | 100N 30P                       |
| Application Date     | June 14, 2019                  |
| Application Timing   | 6L                             |
| Application Rate     | 0.7 L/ac                       |
| Harvest Date         | September 07, 2019             |

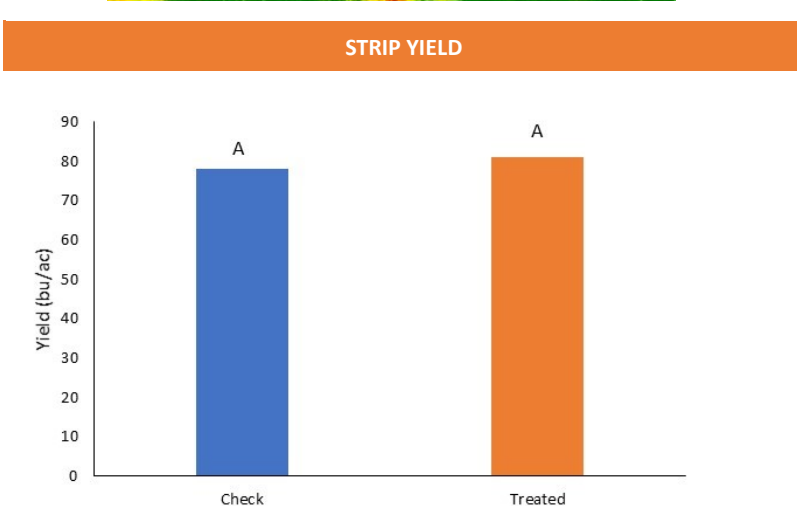


| PRECIPITATION† |     |      |      |     |       |
|----------------|-----|------|------|-----|-------|
|                | May | June | July | Aug | Total |
| Rainfall       | 18  | 66   | 64   | 32  | 182   |
| Normal         | 58  | 85   | 71   | 74  | 291   |

†Growing season precipitation (mm)

| WHEAT RESPONSE   |                       |                       |                         |         |
|------------------|-----------------------|-----------------------|-------------------------|---------|
|                  | Plant Height (inches) | Lodging Incidence (%) | Lodging Severity (1-10) | Protein |
| Manipulator™ 620 | 31                    | 1                     | 2                       | 12.4    |
| Untreated        | 33                    | 7                     | 2                       | 11.8    |

| OVERALL YIELD    |              |
|------------------|--------------|
|                  | Mean (bu/ac) |
| Manipulator™ 620 | 81.1         |
| Untreated        | 78.0         |
| Yield Difference | 3.1          |
| P-Value          | 0.2331       |
| CV               | 5.4%         |
| Significance     | No           |



**Summary:** There was no significant yield difference between the Manipulator™ 620 plant growth regulator application and the untreated check. There was a significant reduction in plant height of 2" with plant growth regulator application. There was a significant reduction lodging observed within the trial. Rainfall was near normal in July and below normal for the remainder of the growing season.