NORTH DAKOTA STATE UNIVERSITY CORN PERFORMANCE TESTING

**2019 Testing Procedures**

**GENERAL TESTING NOTES:**

* **$400 per zone, GMO hybrids**
* **$150 per zone, conventional hybrids, 1 location**
* **3 locations per zone**
* **4 replications per location**
* **3 Zones**
* **No limit for # hybrids entered**
* **Alpha lattice experimental design**
* **Insecticidal seed treatments allowed**
* **20’ plot length, 4 rows per plot**
* **7250 seeds or ~5.0 lbs per entry (GMO)**

**~2.5 lbs (conventional)**

**Zones:** The map at the bottom of these procedures shows the broader adaptation zones used in the testing program. However, our testing sites within the zones will be limited to specific counties as described below in order to limit potential overlap with locations where corn hybrid testing is being conducted by REC’s within those zones. A minimum of three, and maximum of four test sites for GMO hybrids, and one site for conventional hybrids, will be included in each zone. Every possible effort will be made to plant, harvest, and calculate the results for each entry accepted. If conditions make this impossible, no financial liability is either implied or expressed by North Dakota State University.

**Locations:** The likely locations for 2019 corn testing will be Ransom, Sargent, and Richland counties in zone 3, Steele, Cass, and Traill counties in zone 2, and Ramsey, Nelson, Grand Forks, and Marshall Counties in zone 1. Conventional hybrids will be tested at only one location per zone: Grand Forks County in zone 1, Cass County in zone 2, and Ransom County in zone 3 and will be planted within the same trial as the GMO hybrids. These locations are subject to change.

**Design:** The alpha-lattice experimental design will be used when designing experiments, unless a more suitable design is selected, and hybrids for a location will be entered randomly regardless of RM. The maturity split within a zone (see maturity section) will be enforced upon data publication. Four replications will be planted at each location in each zone. Plots will be four rows and 20 feet in length. Only the middle two rows of each plot will be harvested for data, with the outer two acting as borders between plots, to minimize the effect of varying plant heights from adjacent plots.

**Plant populations:** Each entry will be planted at approximately 34,000 plants per acre at each testing location.

**Plot Management:**  When possible, management activities (fertilizer, tillage, herbicide and pesticide application) will be conducted by the cooperator in conjunction with their normal field activities. Otherwise, Extension staff will be responsible for key management practices to ensure equal treatment of all hybrids across the trial.

**Data collected:** The data collected will be test weight, moisture, and yield for every plot. The least significant difference (LSD) will be calculated at the 90% and 95% confidence level for each variable. Other variables that may be included, when available, in reporting include: soil type, soil test results, fertilizer and herbicide applications and timing, tillage practice, weather data, multiple year averages (for entries entered two years in a row), lodging, final stand counts, and planting and harvest dates.

**Fees:** The fee this year for testing is $400 per entry,per zone for GMO hybrids and $150 per entry, per zone for conventional hybrids. Entry fees are due at the time of application or before seed delivery. Failure to pay will result in disqualification of the entries in the form of hybrids not being planted. Electronic payments are not being accepted; however, a copy or photo of the check may be included with application if the company name on the entry is different from the payee. Please write ‘2019 NDSU Corn Hybrid test’ in the memo line to ensure proper receipt of payment.

**Eligibility of entrants:** Producers and/or distributors of corn seed are eligible to make entries in the North Dakota State University Corn Performance Testing.

**Entries by producers or distributors of corn seed:** All entries must be accepted for bulk sale of the harvested crop in domestic markets and be approved for feed and food use, with the exception of experimentals as described below. Each application for entry will be based on the experimental name or the designated name by which the seed of the entry is sold. Any individual or concern, or group of individuals or concerns together with subsidiaries and contractgrowers, who produce and/or sell seed of the entry under the same designated name, will be considered as one entrant. An entry may be tested only once in any zone. **Entry brand names must be available for sale to growers (i.e., no “phantom brands”).**

**Commercial or experimental entries:** If seed will be offered to farmers in the following season the entry will be classified as commercial. If no seed will be offered to farmers the following season the entry will be identified as experimental. **Experimental entries may be accepted on a conditional basis**—if a decision is made by the applicant during the growing season to discontinue an experimental line, results can be withheld from publication at the applicant’s request.

**Farmer-nominated entries:** No ‘check’ hybrid will be entered for that expressed purpose. Each hybrid in our trials is considered a ‘check’ for every other hybrid, but we may include a widely grown, farmer-provided hybrid that has not been entered in the test for a clearer picture of the available hybrid market. Crop improvement organizations within a zone are encouraged to invite specific widely grown hybrid entries from pertinent companies.

**Date of entry:** The application form must be in the possession of North Dakota State University by March 29 of the testing year. We reserve the right to reject any or all applications received after that date.

**Maturity:** Entries should be placed in the appropriate zone. The list below is given as a general guideline. If you feel a hybrid is suited for a zone with regards to relative maturity, enter it. There will be a maturity split within each zone for publication purposes to compare like with like, as indicated below, unless a change is required after all the entries are received. The groupings are roughly even maturity splits grown in each zone, which may result in more hybrids in one split than the other within a zone. The maturity grouping between early and full-season tests within a zone will be enforced once the split is established.

|  |  |  |
| --- | --- | --- |
|  | **Early-maturing RM** | **Full season RM** |
| Zone 1: | ≤82 | ≥83 |
| Zone 2: | ≤86 | ≥87 |
| Zone 3: | ≤94 | ≥95 |

We realize there can be variability from season to season, and among companies, with respect to RM. Please include the RM as currently marketed, of each entry on the application form. The RM information will be used if the groupings need to be adjusted. The testing director reserves the right to withhold publication of results for entries that mature outside these bounds by an unreasonable amount.

**Number of entries:** Any applicant may enter **an unlimited** number of hybrids per zone. There may be a cap in future years, but until we see an excessive number of entries there will be no limit.

**Seed for testing:** By April 13 of the testing season, deliver or send by freight a **minimum of 7250 seeds or 5 lbs (3500 seeds or 2.5 lbs conventional) per hybrid per zone entered**. **The seed for testing of commercial hybrids must be from seed of the hybrid being sold for commercial planting.** The testing coordinator reserves the right to request documentation stating the origin of the source seed lot.

**Right to reject:** The right is reserved to reject any entry if:

1) The application form has not been received by March 29 of the current season

2) The information requested on the application form is incomplete

3) There is a misrepresentation

4) The entry fee is not paid before seed delivery

5) The seed has not been received by April 13 of the testing season

**Publication of results:** Data from North Dakota State University Corn Performance Testing will be published in accordance with the policies established by North Dakota Extension. Results will be analyzed and posted as soon as possible, with a target of no later than one week after the harvest of the last trial.

**Use of the data in advertisements:** North Dakota State University Corn Performance Testing desires to maintain the credibility of data from the corn performance test. Misuse of these data in advertisements can have a negative effect on the perception of the value of these data. For advertising purposes, brand-to-brand comparisons should not be made unless more than one competitor brand is used in the ad and all entries of those brands in a given table are included in the ad. Advertisement statements by an individual company about the performance of its own entries can be made as long as they are accurate statements about the data as published with no reference to other companies’ hybrids. A statement similar to: “See the official North Dakota State University Extension Corn Performance Testing report, and/or data at <http://www.ag.ndsu.edu/varietytrials/> for details”, should be included in the ad.

**INSTRUCTIONS FOR SUBMITTING AN APPLICATION**

**Note:** Both the GMO and conventional application are in the same spreadsheet, just different tabs (worksheets). Because of the different amount of seed, the application will generate separate seed shipment invoices for GMO and conventional hybrids, however only one payment invoice will be generated with the sum total of all GMO and conventional hybrids (if applicable).

1. **Email:** Complete the excel file ‘2019 NDSU Corn Hybrid Test Entry Form’ and email to [Darin.Eisinger@ndsu.edu](mailto:Darin.Eisinger@ndsu.edu)
2. **Mail:** Print sheet ‘5. Payment invoice’ from the application and mail with check payable to: NDSU Plant Sciences to Joel Ransom at the address below.
3. **Ship seed:** Print sheet ‘4. Seed shipment invoice’ (and ‘4b. Seed Shipment Invoice Conv.’, if entering conventional hybrids) and deliver with seed to address below under SEED SHIPING by April 13.

**\*\*Entries and payment checks must be e-mailed or postmarked by Friday, March 29, and seed delivery is due Friday, April 13.**

|  |  |  |
| --- | --- | --- |
| SEND INVOICE AND CHECK TO: |  | |
| Joel Ransom  Department of Plant Sciences  NDSU Dept. 7670, 166 Loftsgard Hall  PO Box 6050,  Fargo, ND 58108-6050 |  | |
| SEED SHIPPING | | |
| **Ship by Freight (preferred)** | | Ship by US Postal Service (USPS) |
| Darin Eisinger  NDSU Dept. Dept. of Plant Sciences  166 Loftsgard Hall  N. Bolley Dr.  Fargo, ND 58102  **(DO NOT use this address for US Postal Service shipments. USPS uses a different address)** | | Darin Eisinger  NDSU Dept. 7670  166 Loftsgard Hall  PO Box 6050  Fargo, ND 58108-6050 |
| **Questions:**  Darin Eisinger, Research Assistant  701-231-5183 (office)  701-371-2343 (cell)  Darin.Eisinger@ndsu.edu  Joel Ransom, Principal Investigator | | |
| 701-231-7405 (office) | | |
| 701-730-0384 (cell) | | |
| Joel.Ransom@ndsu.edu | | |

**TESTING ZONES**