February 1, 2005

MEMORANDUM

To: All Commercial Hybrid Corn Seed Providers in Montana

From: Kenneth D. Kephart, Superintendent/Research Agronomist
      Associate Professor of Agronomy

Subject: 2005 Corn Hybrid Test

The Southern Agricultural Research Center (SARC) is one of seven research centers in the Montana Agricultural Experiment Station (MAES) system of Montana State University-Bozeman. Located in an irrigation district of the Yellowstone river valley east of Billings, Montana, SARC conducts research programs that serve an agriculture more diverse than the remainder of the state. This memorandum is an invitation to participate in the SARC corn hybrid field test for the 2005 production year.

For 2005, the SARC Variety Testing Program will again be offering a corn hybrid field test for grain production. The test will be conducted at one location under irrigation on the research center using conventional herbicides. SARC is not offering separate tests for Roundup Ready™, Liberty Link™ or other genetically modified hybrids at this time. Details for submitting hybrids are as follows:

Entries: All corn hybrids offered or likely to be offered for sale in Montana will be accepted for performance testing on a fee basis. All hybrids must be entered by using the attached 2-sided application form. Hybrids ranging from approximately 75 to 100+ day maturity rating (Minnesota scale) will be accepted, however, 85 to 90 day hybrids probably represent full season grain types at this location during most years. Please indicate priority by order of listing. Entries will be accepted on a first come, first served basis, however, the right is reserved to limit the number of entries from each entrant if the number of entries exceed available facilities. Transgenic or genetically modified hybrids must be identified, and licensed for both domestic and export sales. Montana State University-Bozeman and the Montana Agricultural Experiment Station shall not be held liable for corn hybrids submitted for testing and not properly identified by the entrant.

Fee & Remittance: The fee schedule for 2005 remains $150.00 US for each hybrid tested. Remittance shall accompany entry form. Please make all remittances payable to “SARC Variety Testing Program”.

Methods: A randomized complete block (RCB) design with four replications or balanced lattice design with three replications will be used, depending on the total number of entries. Seed for each row within each plot will be electronically counted to insure that each entry establishes from a uniform population. Plots will be 4 rows wide and 30 feet long. Row spacing will be 30 inches. Plots will be planted using a modified John Deere MaxEmerge planter equipped with fluted seed cones. Target planting date is May 1, 2005. Preplant broad spectrum broadleaf and grass herbicides will be applied for weed control in all entries. Post emergence application of herbicides and hand weeding will be implemented as needed. Nitrogen and phosphorus will be applied to produce a 200 bushel corn crop based on soil test recommendations.
Data will be collected from the center two rows. All hybrids will be evaluated for establishment, silking date, lodging (if applicable), grain yield, test weight and grain moisture content. Center rows will be trimmed to 27 feet prior to harvest, and harvested with a research plot combine equipped with a conventional 2-row corn header. Reported grain yields (bushels/acre) will be adjusted to 15.5 percent grain moisture content. Related climate data (e.g. GDD\textsubscript{50}, precipitation, etc) and management information also will be summarized.

Seed Required: Recent studies at SARC indicate maximum corn grain yields under irrigation are achieved with an established population of 38,000 plants per acre. Hybrids will be planted at 105 percent of the target population. Each row will be planted with 68 seed, approximately equal to planting 39,500 plants per acre. Please submit a 1,000 gram (~2 pounds) sample of seed for each entry. Any remnant seed will be stored as a reference sample for the duration of the 2005 cropping season. Upon publication of the results, all remnant seed will be destroyed. Prior arrangement may be made to return remnant seed to the entrant. Treated seed must be accompanied with the appropriate material safety data sheet (MSDS) for each active ingredient.

Reporting Results: Tabularized test results will be provided to all entrants not more than 30 days after final harvest. Results will be published in the Annual Progress Report of the Southern Agricultural Research Center, miscellaneous popular reports, out-reach bulletins, extension presentations, and on the SARC web site (http://www.sarc.montana.edu/). All test results belong to Montana State University and may be distributed in additional publications and through other media as to provide the greatest benefit to the public.

Disposal of Grain: All grain harvested from the hybrids submitted for testing will be disposed of through commercial feed channels. Plot samples will be bulked and mixed together prior to disposal. Guard rows will be harvested and bulked using a commercial field combine after yield rows have been harvested.

MTA's: All Material Transfer Agreements require review and approval by the Vice President for Research at Montana State University-Bozeman. Please provide adequate lead time if your application involves a MTA for submission of entries.

Closing Date: Signed applications for entry must be postmarked no later than March 18, 2005. Unsigned applications will not be accepted. Mail completed application form and checks to:

Ken Kephart  
Southern Ag. Research Center  
748 Railroad Highway  
Huntley, MT 59037-9099  

Seed must be received by April 1, 2005. Ship all seed prepaid to the above address.

If you are not responsible for submission of materials into public performance tests, please pass this letter and application form onto the appropriate person in your company. With sufficient interest and participation in the 2005 hybrid corn test, this program will be continued for the foreseeable future. Please feel free to contact me if you have any questions regarding this matter.
Corresponding contact and address.

Submitted by: ____________________________________________
Company: ________________________________________________
Address: _________________________________________________
City/State/Zip Code: _______________________________________
Phone: ___________________________________________________
FAX: ____________________________________________________
Email: ____________________________________________________
Federal Employer Identification Number: _________________________

(Company FEIN required to process remittance, not for public distribution)

For publication as contact information (if different from above).

Contact: _________________________________________________
Company: ________________________________________________
Address: _________________________________________________
City/State/Zip Code: _______________________________________
Phone: ___________________________________________________
FAX: ____________________________________________________
Email: ____________________________________________________

Performance Testing Policy Agreement

Permission is hereby given to the personnel of the MAES Southern Agricultural Research Center, Montana State University-Bozeman, to test corn hybrids designated on the second page of this entry form in the manner indicated by the test announcement. I understand that Montana State University seeks to protect the genetics and intellectual property rights of the entrants and that no seed submitted for testing will be used for breeding, selection, genetic engineering or other related purposes. I certify that seed submitted for testing is a true sample of the seed being offered for sale.

I understand all results from the SARC Variety Testing Program belong to Montana State University-Bozeman and shall be controlled by the University so as to produce the greatest benefit to the public. Performance data may be used in the following way: 1) Tables may be reproduced in their entirety provided the source is referenced and data are not manipulated or reinterpreted; 2) Advertising statements by an individual company about the performance of its submitted entries may be made as long as they are accurate statements about the data published with no reference to other company’s names or hybrids.

Signed ____________________________________________
Title _________________________________________________
Date _________________________________________________
### 2005 Hybrid Corn Test Entry Form - Montana Agricultural Experiment Station, Southern Agricultural Research Center, Huntley, Montana.

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<thead>
<tr>
<th>Brand/Hybrid Identification (as desired for publication)</th>
<th>GMO (Yes/No)</th>
<th>RM (days)</th>
<th>Grain Color</th>
<th>Unique Grain Traits</th>
<th>Stalk Strength (1-9)</th>
<th>Root Strength (1-9)</th>
<th>Flex Ear Type (Yes/No)</th>
<th>Prolific Ear Type (Yes/No)</th>
<th>Herbicide Resistance</th>
<th>Insect Resistance</th>
<th>Other Unique Traits/Information</th>
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**GMO:** Is the hybrid transgenic or genetically modified?

**Relative Maturity:** Indicate relative maturity in days (Minnesota).

**Grain Color:** "Y" = Yellow, "W" = White, "R" = Red or Red Tinged.

**Unique Grain Traits:** "W" = Waxy, "HO" = High Oil, "LP" = Low Phytase, "HL" = High Lysine.

**Stalk Strength:** Rates for stalk strength are from 1 to 9 where 1=poor, 5=average and 9=excellent.

**Root Strength:** Rates for stalk strength are from 1 to 9 where 1=poor, 5=average and 9=excellent.

**Flex Ear Type:** Does hybrid ear length change in response to environmental conditions?

**Prolific Ear Type:** Does hybrid ear number change in response to environmental conditions?

**Herbicide Resistance (including transgenic):** "SR" = Sethoxydim Resistance (Poast, Poast Plus), "IR" = Imidazolinone Resistance (Clearfield), "LL" = Glufosinate Resistance (Liberty Link), "RR" = Glyphosate Resistance (Roundup Ready).

**Insect Resistance (including transgenic):** "BT" = European corn borer resistance from *Bacillus thuringiensis*, event unknown, "YG" = YieldGuard BT event, "NKYG" = Northrup King Brand YieldGuard BT event, "YGCR" = YieldGuard Corn Rootworm event, "NG" = NatureGuard BT event, "SL" = StarLink BT event.

**Other Unique Traits:** Please use short phrases to describe other unique traits possessed by this entry.