Fees for Electrophoresis

**Base Sample Fee:** a base fee of $40.00 will be charged for each time a sample or samples are submitted.

**Sample well fees:** Will vary depending on crop and type of test needed. Each check sample required for comparison will be charged at that specific crop rate.

- **Wheat/Oats:** $35.00 per well
- **Millet:** $50.00 per well
- **Soybean & other crops:** call for information
- **Barley:** $50.00 per well

**Gel Photographs:**
- Scanned gel images (annotated)—no charge

**PAGE Applications:**
- Quality Control Programs
- Varietal Verification/Identification
- Regulatory (PVP enforcement)
- Part of PVP applications

For information contact Dr. Brent Turnipseed in the SDSU Seed Testing Laboratory at 605-688-4590.

Aug. 1, 2013
How to use and read an Electrophoresis Gel

Electrophoresis testing at SDSU utilizes the proteins in a seed to obtain a “fingerprint” pattern (unique for each variety) and compare it to a check sample (known variety) to verify or identify the variety of the sample. Below is a simplified example and explanation using HRS wheat variety names.

<table>
<thead>
<tr>
<th>Granger</th>
<th>Unknown</th>
<th>Briggs</th>
<th>Traverse</th>
</tr>
</thead>
</table>

This is known as a “lane” or “well”. Within each lane there are protein bands (some circled in red) which have separated (due to an electrical current being applied). The result is a “fingerprint” pattern that develops for each variety.

Within each lane are protein bands (each horizontal band is a different protein). Bands in lanes are compared or matched (using band size, location, and intensity) to determine or verify varietal identification of the unknown sample submitted. In this example you can see that our unknown matches the variety “Traverse” (showing differences from other spring wheat varieties listed).

To submit samples, send to:

By US Postal Service:
SDSU Seed Testing Lab
Box 2207A
AG Hall 244
Brookings, SD 57007

By UPS/FEDEX/SPEE-DEE:
SDSU Seed Testing Lab
SDSU Innovation Campus
2380 Research Parkway
Brookings, SD 57006

SDSU Seed Testing Laboratory
Varetilal Verification or Identification using Electrophoresis testing

Seed Testing Laboratory
SDSU Innovation Campus
2380 Research Parkway
Brookings, SD 57006
Tel. 605-688-4589
Fax 605-688-5249
E-Mail: sdsu.seedlab1@sdstate.edu