

| <i>Subscriber<br/>Number</i> | <i>Moisture<br/>Z-Values</i> | <i>Protein<br/>Z-Values</i> | <i>Ash<br/>Z-Values</i> | <i>pH<br/>Z-Values</i> | <i>Falling Number<br/>Z-Values</i> |
|------------------------------|------------------------------|-----------------------------|-------------------------|------------------------|------------------------------------|
| 23                           | 1.08                         | 1.46                        | 1.45                    | 0.05                   | 1.31                               |
| 35                           | 2.30                         | * 17.52                     | 0.64                    | 1.07                   |                                    |
| 164                          | 1.30                         | 0.48                        | 0.32                    | 0.57                   | 1.07                               |
| 191                          | 0.73                         | 0.08                        | 0.12                    | 0.61                   |                                    |
| 193                          | 2.02                         | 0.59                        | 0.77                    | 0.30                   | 0.67                               |
| 242                          | 0.12                         | 0.75                        | 0.52                    | 1.24                   | 2.20                               |
| 247                          | 1.14                         | 0.25                        | 0.88                    | 1.01                   | 0.96                               |
| 274                          | 1.11                         | 0.32                        | 0.28                    | 0.30                   | 0.64                               |
| 325                          | 0.73                         | 0.62                        |                         | 0.83                   |                                    |
| 378                          | 0.26                         | 0.82                        | 0.12                    | 0.57                   |                                    |
| 388                          | 2.32                         | 1.82                        | 0.93                    | 0.14                   | 1.04                               |
| 484                          | 0.76                         | 0.99                        | 0.44                    | 0.39                   | 1.74                               |
| 497                          | 0.12                         | 2.50                        | * 5.87                  | * 2.33                 | 0.11                               |
| 512                          | 0.45                         | 2.80                        | 1.61                    | 0.13                   | 0.11                               |
| 519                          | 0.43                         | 0.86                        | 1.93                    | 0.58                   | 1.28                               |
| 589                          | 1.17                         | 0.39                        | 0.32                    | 0.27                   | 0.89                               |
| 603                          | 0.40                         | 0.05                        | 0.52                    | 0.35                   | 1.46                               |
| 607                          | 1.17                         | 0.29                        | 0.08                    | 0.36                   | 0.54                               |
| 649                          | 0.40                         | 0.52                        | 0.48                    | 2.97                   | 0.56                               |
| 662                          | 0.24                         | 0.96                        | 1.17                    | 2.52                   | 0.22                               |
| 750                          | 0.70                         | 0.92                        | 0.96                    | 0.57                   | 0.50                               |
| 769                          | 1.03                         | 0.35                        | 0.56                    | 0.14                   | 0.36                               |
| 771                          | 0.95                         | 0.92                        | 0.96                    | 1.67                   |                                    |
| 812                          | 0.12                         | 0.52                        | 1.05                    | 0.35                   | 0.18                               |
| 1020                         | 0.67                         | 1.76                        | 0.64                    | 0.05                   | 0.21                               |
| 1056                         | 1.09                         | 0.89                        | 0.64                    | 0.57                   | 1.82                               |
| 1308                         | 0.37                         | 0.19                        | 1.05                    |                        | 0.22                               |
| 1326                         | 0.95                         | 0.66                        | 2.45                    | 0.67                   | 0.29                               |
| 1338                         | 1.80                         |                             | * 3.98                  | * 0.76                 |                                    |
| 1352                         | 0.65                         | 0.72                        | 0.64                    | 0.01                   | 0.42                               |
| 1369                         | 0.31                         | 0.22                        | 0.52                    | 0.26                   | 0.46                               |
| 1427                         | 0.12                         | 0.08                        | 0.60                    | 0.18                   | 0.17                               |
| 1451                         | 0.70                         |                             |                         |                        |                                    |
| 1598                         | 1.25                         | 0.56                        | 1.37                    | 1.10                   |                                    |
| 1601                         | 0.29                         | 0.15                        | 0.64                    | 0.13                   | 0.14                               |
| 1641                         | 0.20                         | 0.45                        | 0.44                    | 0.18                   | 1.75                               |
| 1678                         | 0.26                         | 1.09                        | 0.28                    | 1.27                   | 0.78                               |
| 1684                         | 0.34                         | 0.48                        | 1.85                    | 0.76                   | 0.67                               |
| 1692                         | 0.79                         | 0.86                        | 1.08                    | 1.33                   | 1.64                               |
| 1711                         | 1.30                         | 1.12                        | 1.37                    | 0.01                   |                                    |

| <i>Subscriber Number</i> | <i>Moisture Z-Values</i> | <i>Protein Z-Values</i> | <i>Ash Z-Values</i> | <i>pH Z-Values</i> | <i>Falling Number Z-Values</i> |
|--------------------------|--------------------------|-------------------------|---------------------|--------------------|--------------------------------|
| <b>N</b>                 | 40                       | 37                      | 36                  | 38                 | 31                             |
| <b>Mean</b>              | 0.80                     | 0.77                    | 0.83                | 0.70               | 0.79                           |
| <b>Min</b>               | 0.12                     | 0.05                    | 0.08                | 0.01               | 0.11                           |
| <b>Max</b>               | 2.32                     | 2.80                    | 2.45                | 2.97               | 2.20                           |

\* Not included in analytical mean

#### Z-Values

Each individual z-value represents the decimal number of standard deviations by which an analytical result differs from the "true value", as represented by the mean. The minimum or "perfect" z-value is thus 0.00. Proficiency in any one analysis over a year's time (6 bimonthly results) is determined by their mean z-value plus a penalty for each outlier (\*) reported, if any. Proficiency in a series is determined by the mean of the mean z-values (including penalties, if any), are considered to represent satisfactory accuracy and precision. On the same basis, values of less than 1.00 consistently maintained represent outstanding accuracy and precision.

A detailed description of this rating is available upon request from AACC headquarters.

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