

| <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                           | 0.27                         | 2.49                        | 0.92                    | 0.09                   | 0.14                               |
| 35                           | 0.78                         |                             | 0.36                    | 1.67                   |                                    |
| 113                          | 1.12                         | * 6.05                      | * 30.04                 | *                      | 0.06                               |
| 164                          | 0.95                         | 0.62                        | 0.24                    | 0.29                   | 0.52                               |
| 193                          | 0.05                         | 0.10                        | 0.55                    | 0.40                   | 0.14                               |
| 242                          | 0.71                         | 0.19                        | 0.24                    | 0.09                   | 0.95                               |
| 247                          | 1.71                         | 1.06                        | 2.54                    | 0.66                   | 0.97                               |
| 274                          | 1.00                         | 1.20                        | 0.70                    | 0.85                   | 1.72                               |
| 306                          | 0.68                         | 0.72                        | 0.58                    | 1.22                   | 0.90                               |
| 325                          | 1.15                         | 0.14                        |                         | 1.03                   |                                    |
| 378                          | 0.24                         | 0.24                        | 0.54                    | 0.65                   |                                    |
| 387                          | 1.22                         | 0.19                        | 0.81                    | 1.53                   |                                    |
| 497                          | 1.07                         | 0.33                        | 0.21                    | 1.85                   |                                    |
| 512                          | 2.66                         | 0.14                        | 0.73                    | 1.16                   | 1.19                               |
| 519                          | 0.39                         | 0.67                        | 1.30                    | 1.17                   | 2.34                               |
| 589                          | 0.00                         | 0.68                        | 0.77                    | 0.48                   | 0.20                               |
| 593                          | 0.95                         | 0.44                        | 2.42                    |                        |                                    |
| 603                          | 0.12                         |                             | 0.54                    | 0.84                   | 0.29                               |
| 649                          | 0.37                         | 0.33                        | 0.43                    | 0.16                   | 1.21                               |
| 653                          | 0.15                         | 0.19                        | 0.09                    | 0.04                   |                                    |
| 654                          | 0.29                         | 0.15                        | 0.09                    | 1.48                   |                                    |
| 655                          | 0.17                         |                             | 0.24                    |                        |                                    |
| 662                          | 1.37                         | 0.62                        | 0.36                    | 0.47                   | 1.01                               |
| 750                          | 0.63                         | 1.24                        | 0.21                    | 0.78                   | 0.39                               |
| 1020                         | 0.32                         | 0.24                        | 0.06                    | 0.29                   | 1.88                               |
| 1056                         | 0.15                         | 0.09                        | 0.17                    | 1.09                   | 0.25                               |
| 1326                         | 0.10                         | 0.48                        | 0.47                    | 1.16                   | 0.04                               |
| 1352                         | 0.63                         | 1.34                        | * 4.45                  | * 1.23                 | 0.04                               |
| 1427                         | 1.37                         | 1.05                        | 0.51                    | 0.35                   | 0.34                               |
| 1451                         | 2.59                         |                             |                         |                        |                                    |
| 1577                         | 0.00                         | 1.92                        | 0.54                    | 0.59                   |                                    |
| 1591                         | 1.12                         | 0.04                        | 0.51                    | 0.66                   | 0.15                               |
| 1598                         | 1.44                         | 0.77                        |                         | 0.59                   |                                    |
| 1601                         | 1.85                         | 0.28                        | 0.58                    | 0.91                   | 1.10                               |
| 1641                         | 0.37                         | 0.82                        | 0.09                    | 0.91                   | 1.11                               |
| 1663                         | 0.58                         | 1.49                        | 0.21                    | 0.40                   | 0.28                               |
| 1684                         | 0.44                         | 1.73                        | 0.54                    | 1.42                   | 1.00                               |
| 1692                         | 0.15                         | 2.26                        | 3.17                    | 1.48                   | 1.25                               |
| 1711                         | 0.02                         | 1.29                        | 1.48                    |                        |                                    |
| 1726                         | 0.12                         | 0.77                        | 0.96                    | 1.73                   | 1.25                               |

| <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                       | 35                      | 35                  | 35                 | 27                             |
| <b>Mean</b>              | 0.73                     | 0.75                    | 0.69                | 0.85               | 0.77                           |
| <b>Min</b>               | 0.00                     | 0.04                    | 0.06                | 0.04               | 0.04                           |
| <b>Max</b>               | 2.66                     | 2.49                    | 3.17                | 1.85               | 2.34                           |

\* 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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