

Date: 6/14/02 10:11AM
Subject: spinach std

Hi all. As requested at the RAMP meeting this week, I have attached the short and sweet instructions for how we used spinach standards for NELAC certification. Call me if there are any questions. I have attached both WP and Word documents.

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16.2 Standardization of Spinach Standard

- a. Spinach standards were prepared by measuring fresh spinach, processing it in a tissue grinder until no large pieces remain, and quantitatively transferring into volumetric flask with DI water. The standard amount used was 0.1 g spinach / 500 ml DI water.
- b. Twenty spinach standards were prepared, filtered and read according to the method.
- c. For chlorophyll *a*, a true value of 107.6 mg/m³ was determined by calculating the mean of all twenty values. The standard deviation was 20.61. In-house acceptance limits of mean +/- 2 std dev will be updated quarterly or upon addition of 20 data points.
- d. For corrected chlorophyll *a*, a true value of 105.3 mg/m³ was determined by calculating the mean of all twenty values. The standard deviation was 19.74. In-house acceptance limits of mean +/- 2 std dev will be updated quarterly or upon addition of 20 data points.

16.3 Initial and/or Continuing Demonstration of Capability

1. Analyst measures 0.4 g spinach to be processed in tissue grinder and transferred to DI water in 2000 ml volumetric flask. This is equivalent to the 0.1g / 500 ml used in 16.2.
2. Four samples of 500 ml each are filtered and read.
3. Results are compared to in-house acceptance limits. If within range, analyst is considered to have demonstrated capability of running chlorophyll *a* and corrected chlorophyll *a*.

We are also testing a weekly standard which would be prepared on Mondays and run on each day that week. Results so far indicate that there is no significant decrease in values over that time. As mentioned at the RAMP meeting this week, we are also testing how stable the acetone extract is as a standard. Not enough data yet to comment.