

Vitamin Analysis in the Food Testing Laboratory

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One Simple Word of Advice

DON'T

1. The Sample
2. The Test Method
3. The Result

- Complexity of matrix
 - Chocolate
- Lability of vitamins
 - Heat, Light, storage
- Variation - Seasonal/Geographical/Ripeness
 - tomatoes
- How much or how little is there?
 - RDA Vit C 80mg
 - RDA Vit B12 2.5µg

- **Extraction**
 - Matrix effects
- **Specificity (good or bad?)**
 - Folic acid/folates
- **Precision**
 - What is the true result?
- **Accuracy**
 - Reproducibility
- **Fit for Purpose**
 - Food Labeling Legislation

- Microbiological Methods
 - B12
- Classical Wet Chemistry
 - Indophenol
- HPLC
 - B vitamins/Fat soluble vitamins (One Run?)
- Immunoassay
 - SPR e.g. Biacore Q – Folic acid/Folate
- LC/MS
 - The future?

- Why do people want a result?
 - Information
- What is the result used for?
 - Labelling
- What does the result mean?
 - What is Vitamin A?
- Bioavailability
 - Is the analytical result relevant

- Vitamin content testing is a particularly difficult, demanding and challenging analysis.
- It is therefore inevitably expensive
- Results can vary considerably. This can be due to both the sample and the analytical technique employed. This does not imply a right or wrong result.
- The information can be very valuable
- Care should be taken in deciding what information is required and therefore what testing is required.

Thank you for your time

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