

## NEAR INFRARED REFLECTANCE (NIR) SPECTROSCOPY

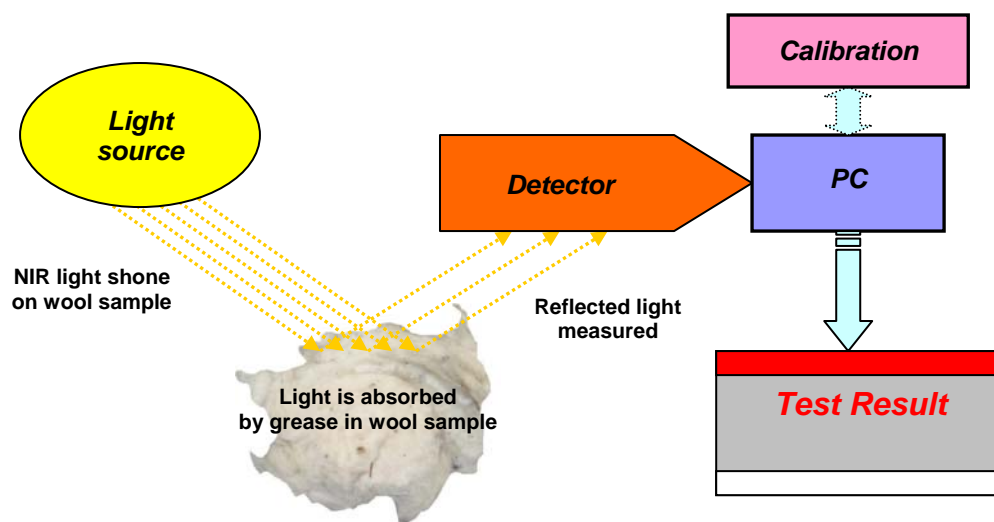
### *Measuring Grease in Wool*

#### **What is NIR used for?**

- NIR is used to measure the amount of residual grease in a sample of wool, after it has been scoured and dried.
- The amount of residual grease in a sample is used in the calculation of the Wool Base.

#### **How does it work?**

- Grease molecules have the ability to absorb light in a unique way.
- NIR light is shone on a sample.
- The amount of light absorbed by the grease is measured by the NIR machine. More grease means more light absorbed.
- Using a calibration, the exact amount of grease in the sample can then be determined.



#### **Advantages over wet chemistry**

- Traditionally, residual grease is obtained using wet chemistry techniques involving a Soxhlet extractor.
- This method is slow and involves hazardous chemicals.
- NIR analysis is fast and does not require any chemicals.
- This helps keep testing costs down.

#### **FURTHER INFORMATION**

Ian Ashman  
General Manager – Raw Wool  
AWTA Ltd  
Phone: 03 9371 2100  
Fax: 03 9371 2190  
Email: [ian.ashman@awta.com.au](mailto:ian.ashman@awta.com.au)