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## Investigation of absorption and scattering characteristics of kiwifruit tissue using a single integrating sphere system

Key words: Optical properties, Integrating sphere, Inverse addingdoubling, Kiwifruit

## **Research Summary**

This research aimed to measure the optical properties of kiwifruit tissues using a low power Helium-Neon (He-Ne) laser (632.8 nm) and a single integrating sphere system. Specific objectives were to:

- Establish an integrating sphere system for measuring the optical properties of biological tissue;
- (2) Estimate the absorption coefficient  $\mu_a$  and the reduced scattering coefficient  $\mu_s'$  of the kiwifruit tissue using the established system and the IAD method;
- 3 Compare the optical properties of kiwifruit tissue from three different parts .



## **Innovation** points









seed





• The mean values of  $\mu_a$  and  $\mu_s'$  of tissue in different parts of kiwifruit were 0.031-0.308 mm<sup>-1</sup> and 0.120-0.946 mm<sup>-1</sup> at 632.8 nm, respectively.

• Significant differences were found for the optical properties of kiwifruit tissue in different parts.

Seed-base