

Prediction of nutritional content of black soldier fly (BSF) larvae using multispectral imaging

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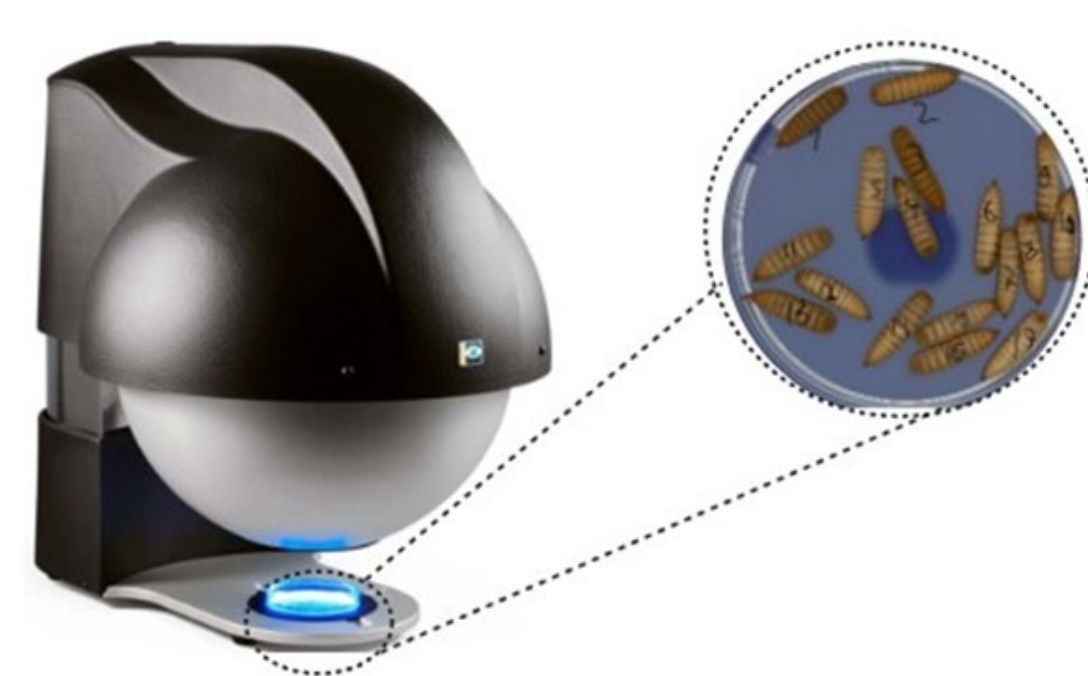
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Multispectral imaging allows prediction of nutritional content in individual black soldier fly larvae

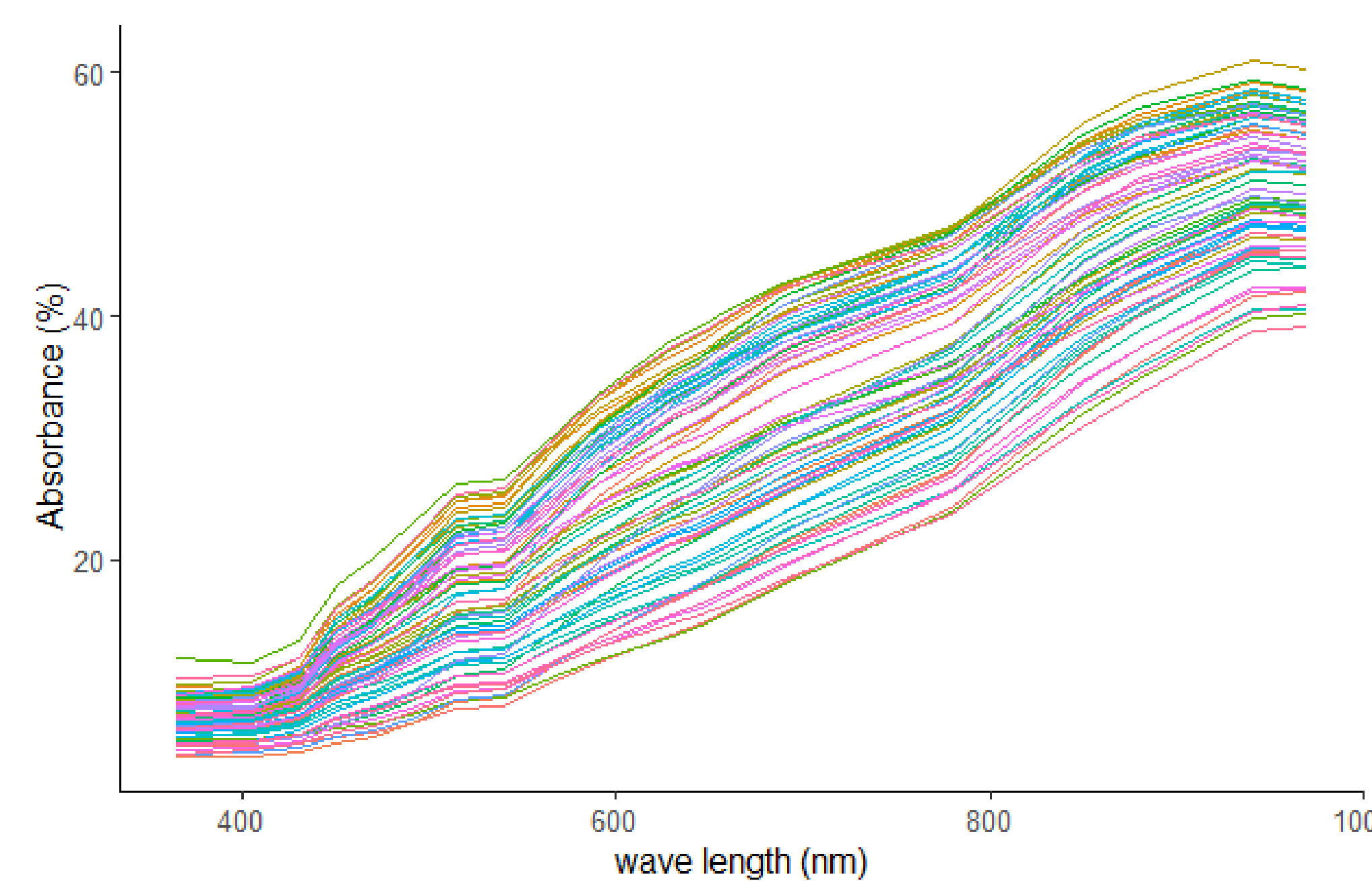
Methods

Acquisition of spectral images

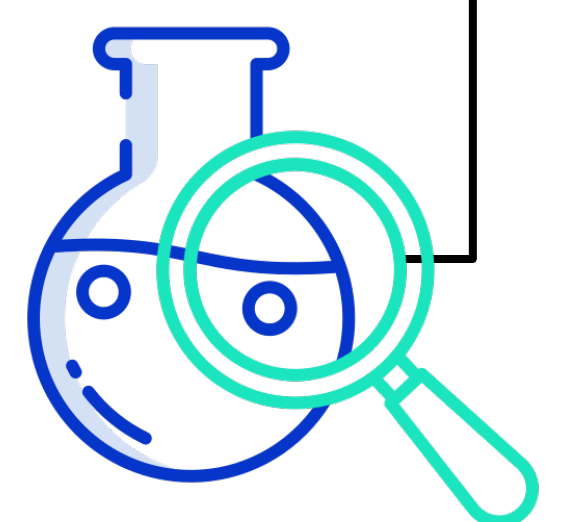
VideometerLab 4 camera



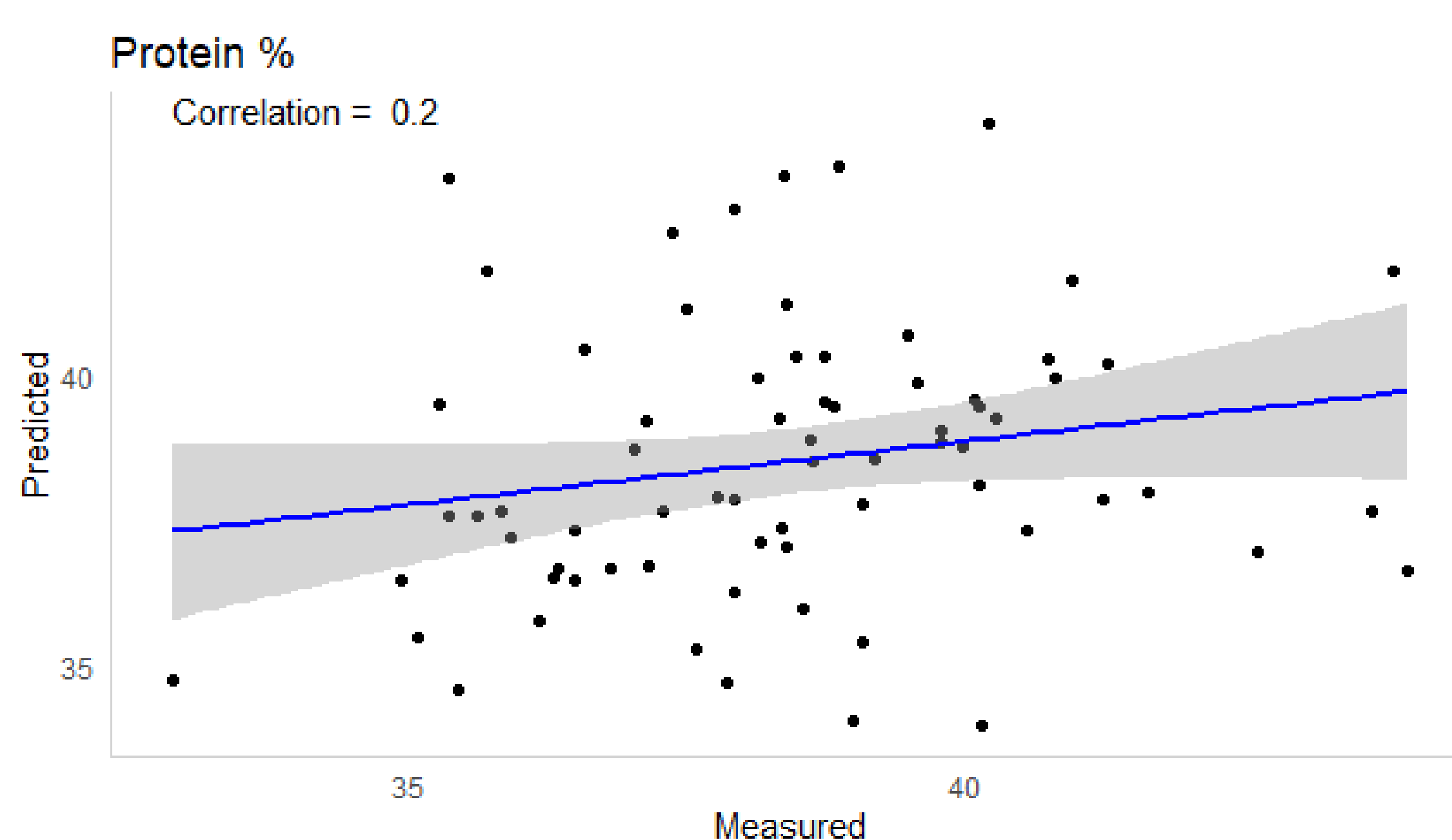
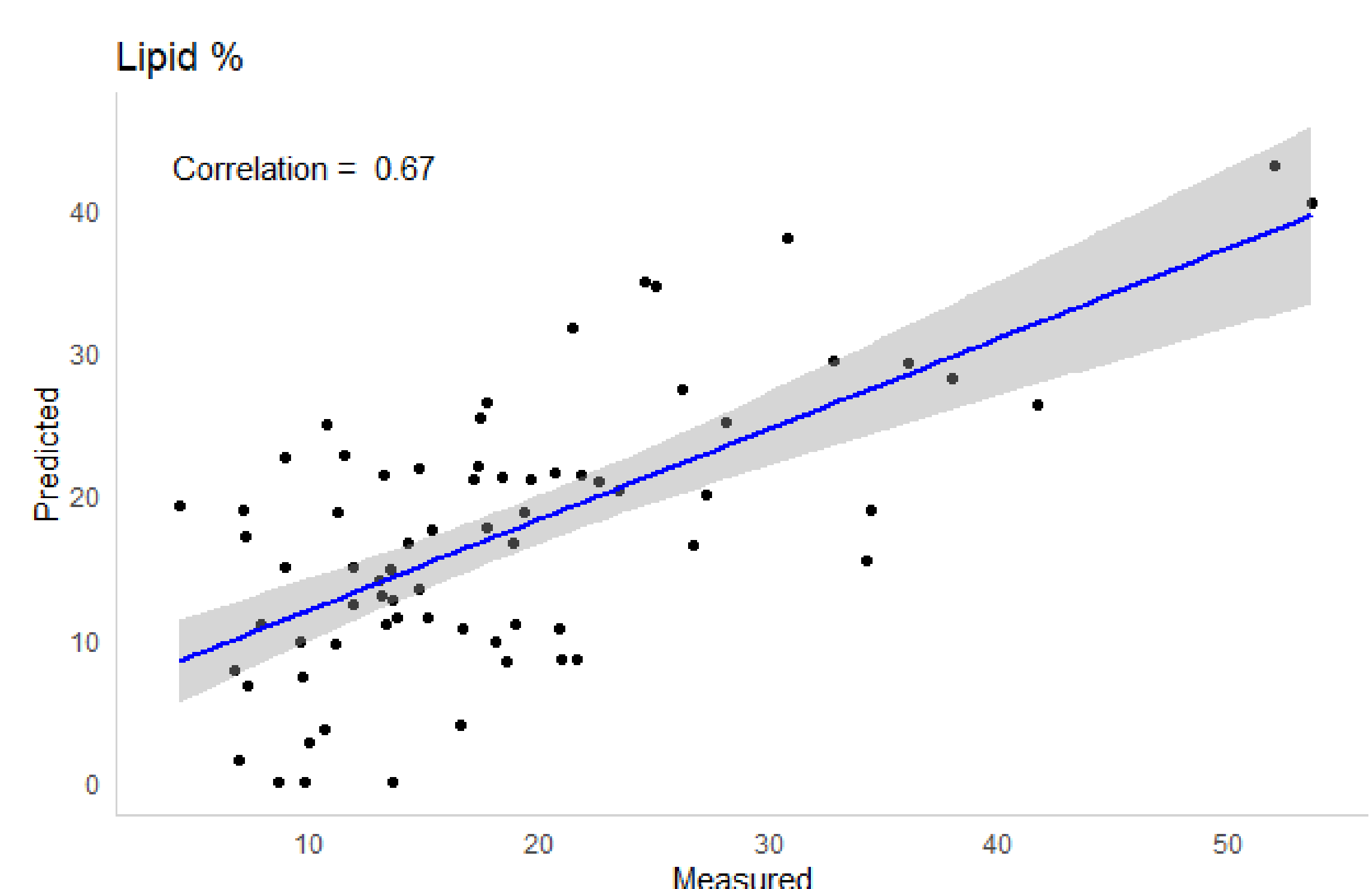
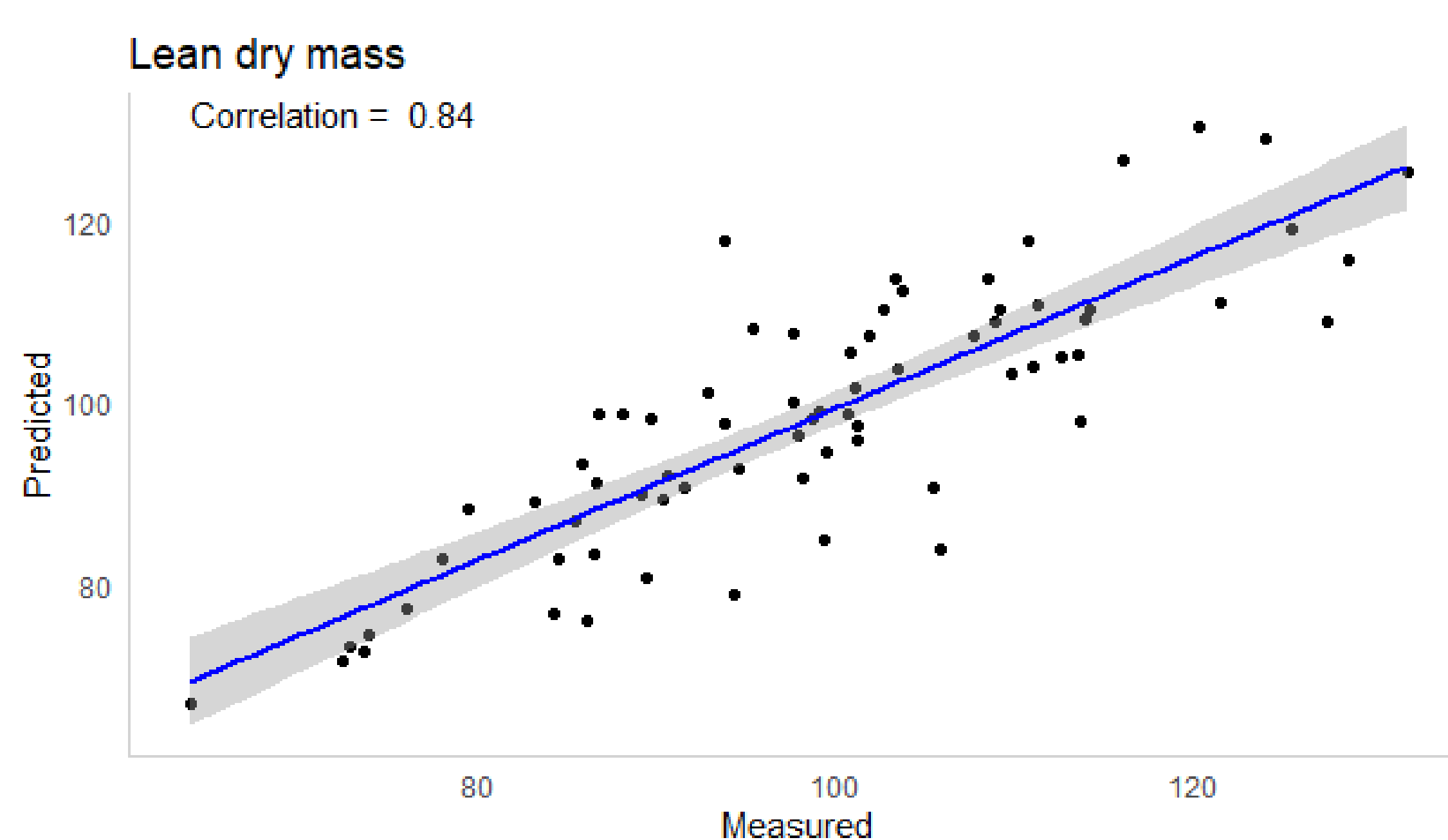
Absorbance extraction



Chemometric analysis



Model training & prediction (PLS)



Take-away message

Multi-spectral prediction shows potential: Effective for estimating certain nutritional traits in BSFL, such as dry mass.

Accuracy limitations: Current study show lower accuracy for predicting traits like protein %.

Data constraints: current study limited by a small sample size.

Need for further research: Additional studies with larger datasets warranted.