Summary of the data - Witzenhausen

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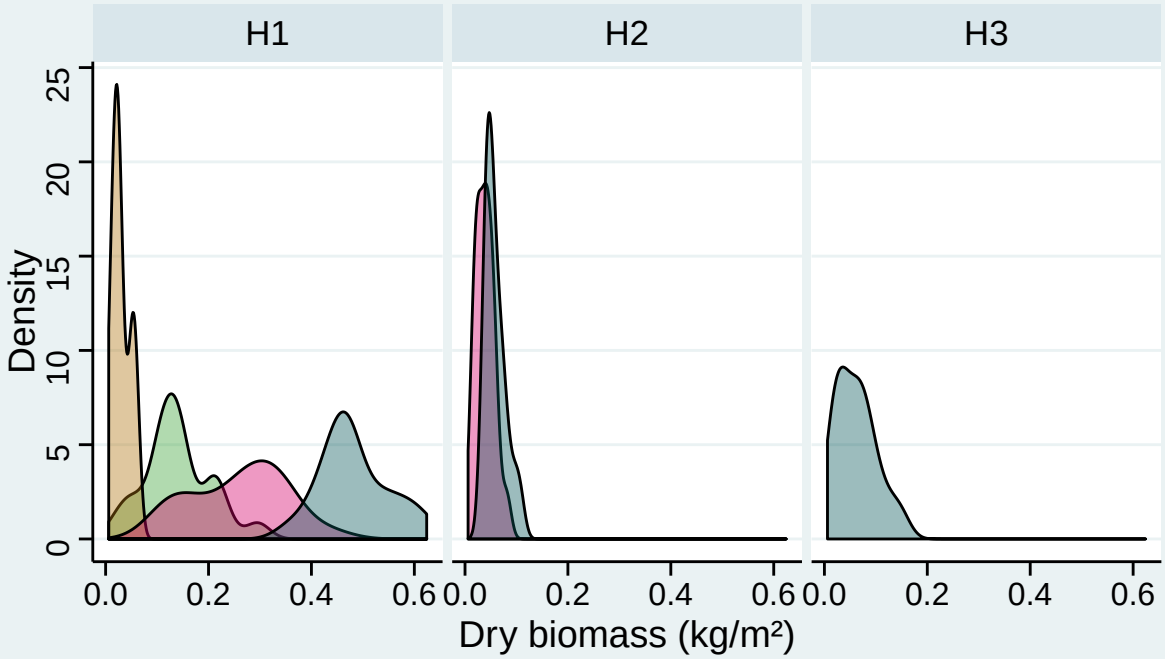
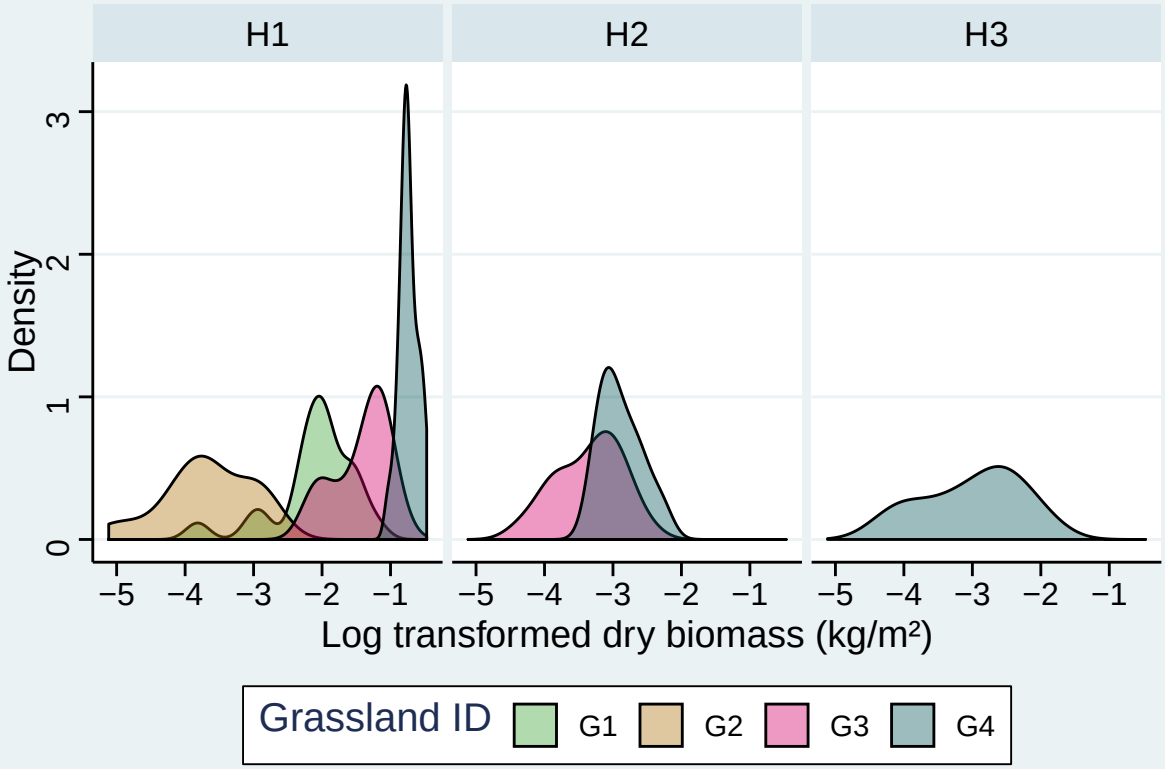
1 Reading and visualise trait data

1.1 Biomass data

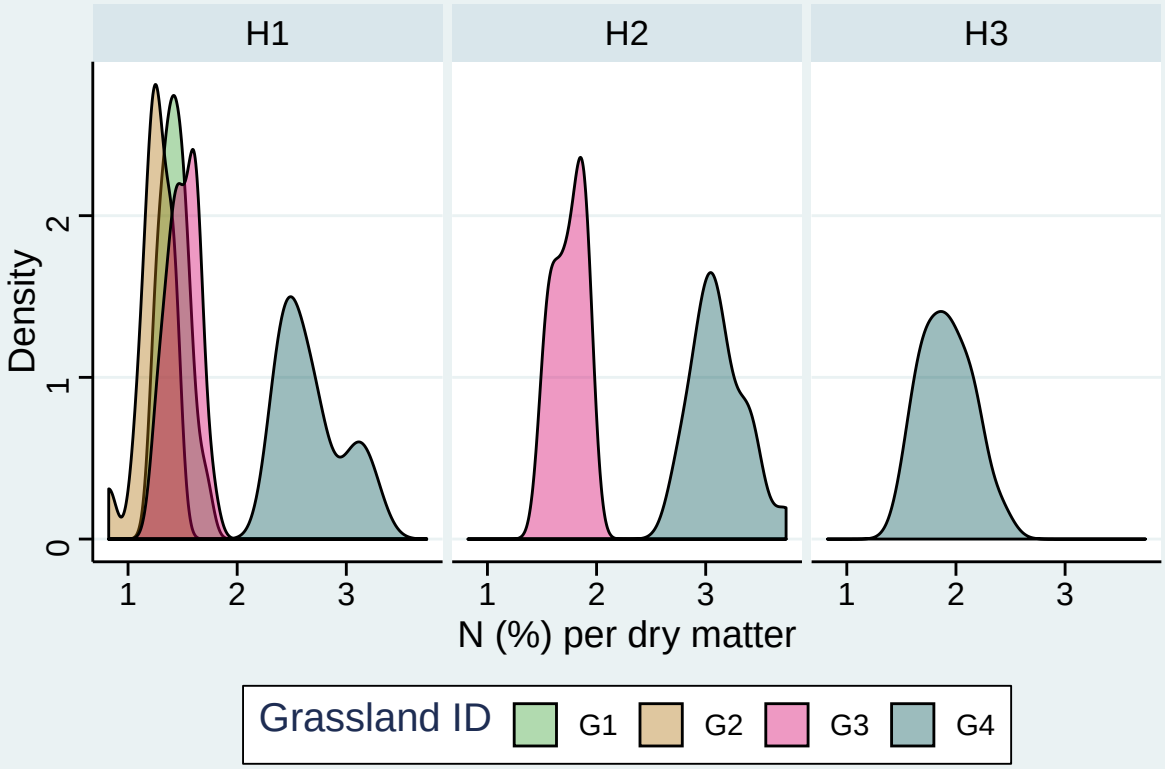


Dry biomass data (WIZ)

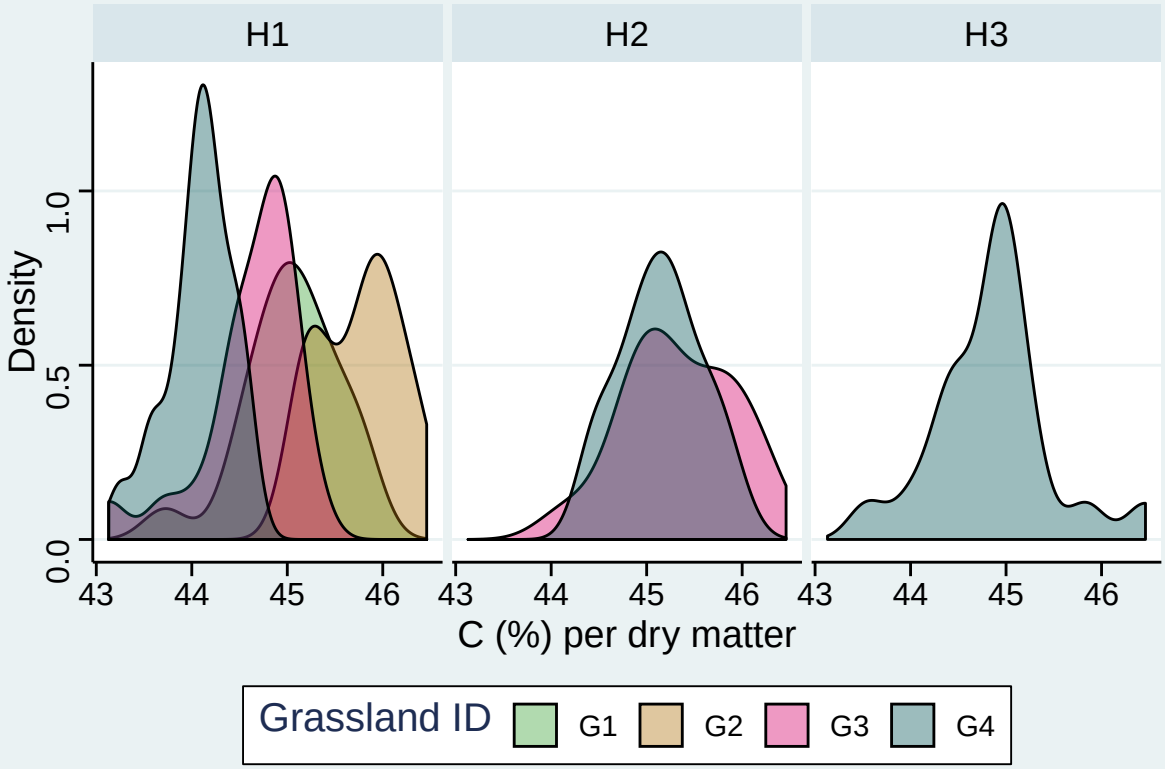


Log transformed dry biomass data (WIZ)

1.2 Nitrogen (N) and Carbon (C) data

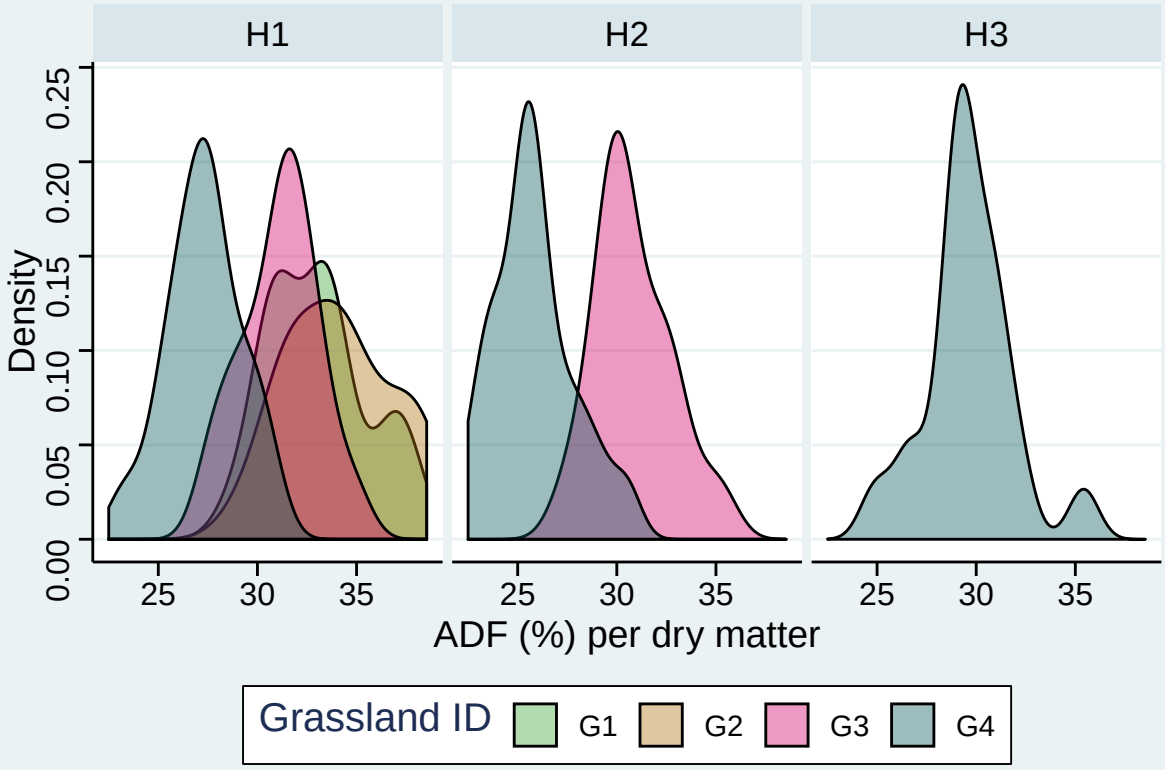


Nitrogen (N) concentration data (WIZ)



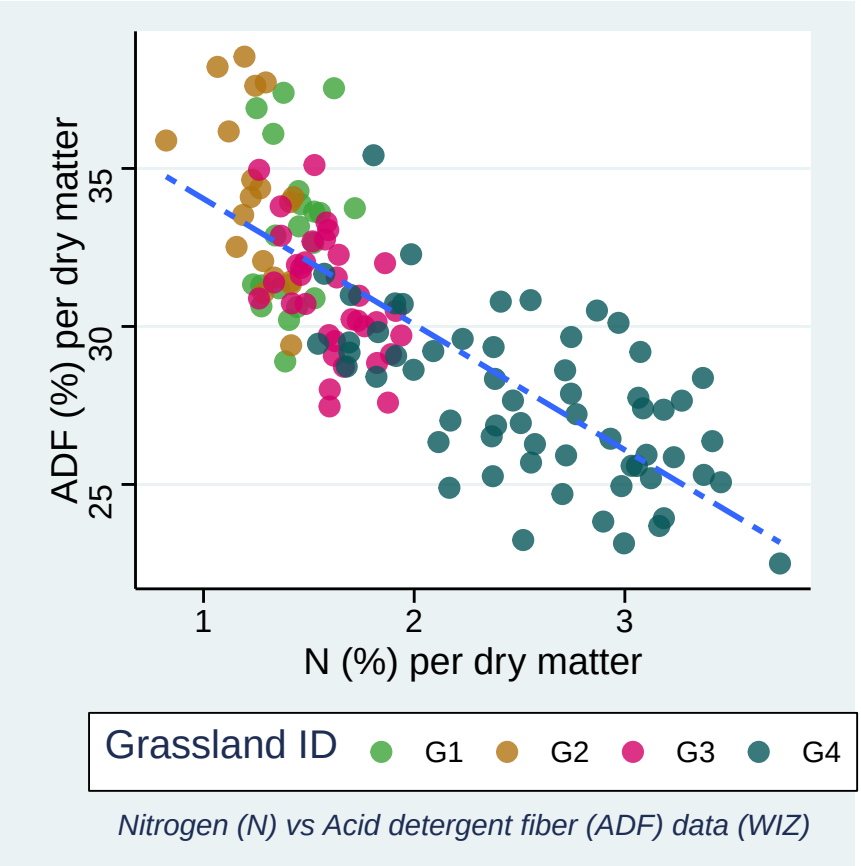
Carbon (C) concentration data (WIZ)

1.3 ADF data



Acid detergent fiber (ADF) concentration data (WIZ)

1.4 N vs ADF



Nitrogen (N) vs Acid detergent fiber (ADF) data (WIZ)

2 Hyperspectral data

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Summary of Speclib


Summary of spectra
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Total number of spectra : 134
Number of bands : 118
Width of bands : 4
Spectral range of data : 482 - 950 nm


Speclib contains SI
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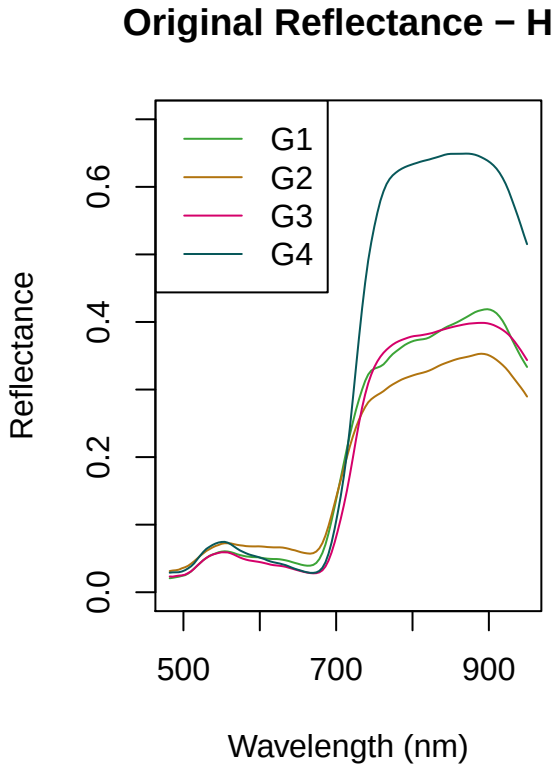
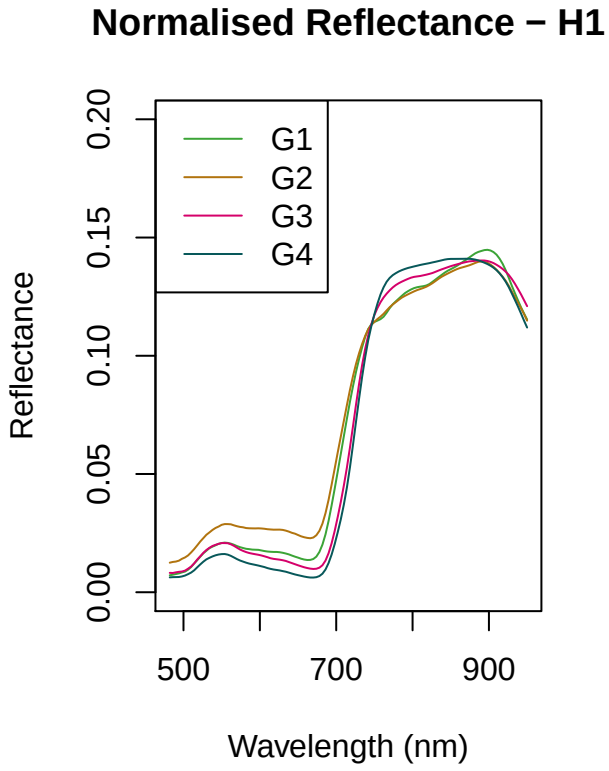
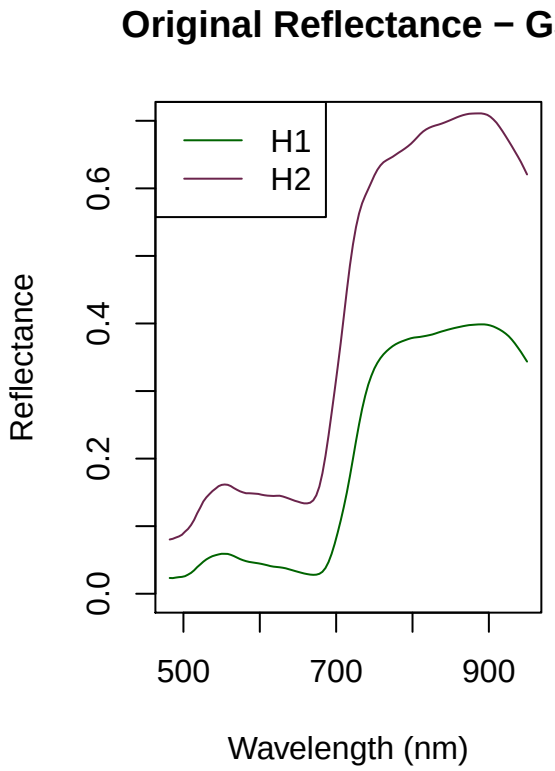
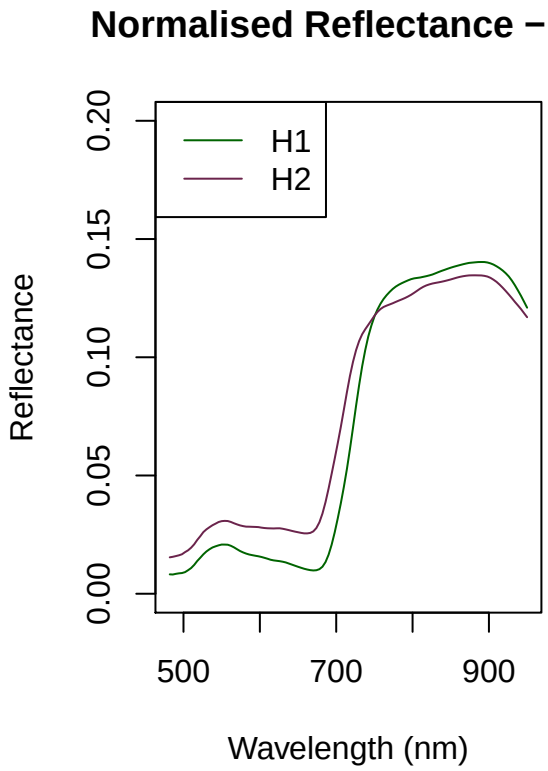
   Variables Classes
1   field_id  factor
2      fp_id integer
3    harvest  factor
4        PAN numeric
5     lab_no integer
6         fb numeric
```

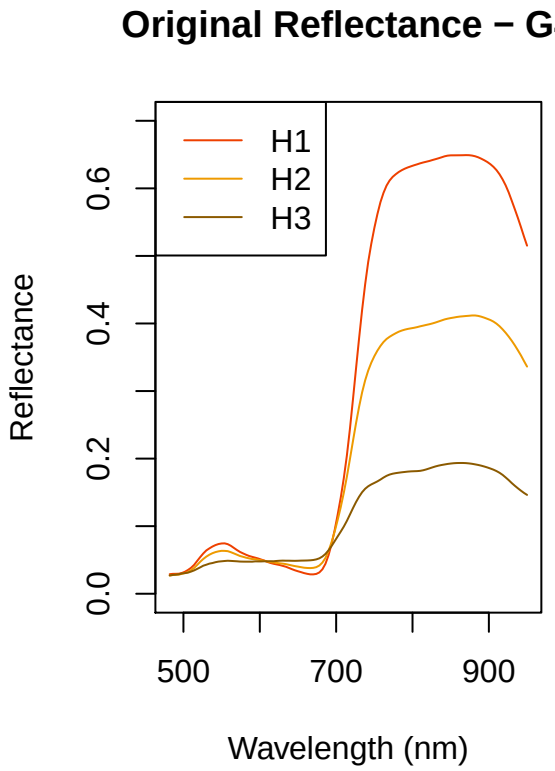
```
7  fb_sample numeric
8  db_sample numeric
9       db_p numeric
10        db numeric
11     logdb numeric
12         n numeric
13         c numeric
14  cn_ratio numeric
15       adf numeric
```

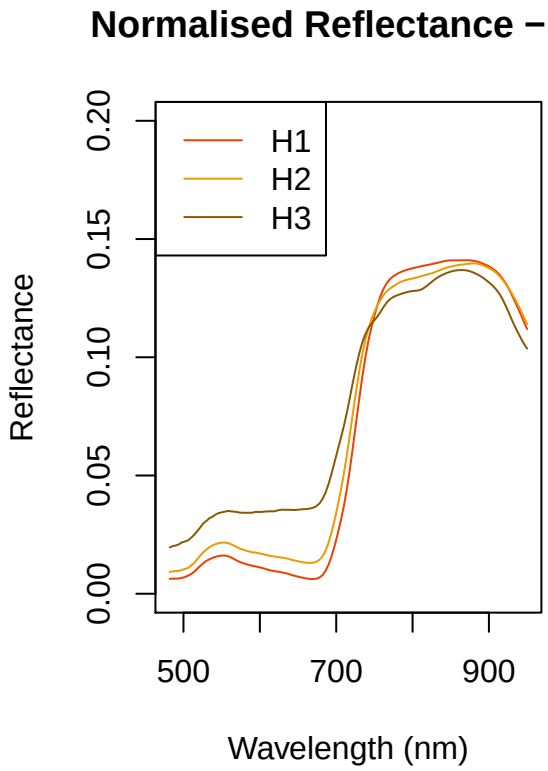




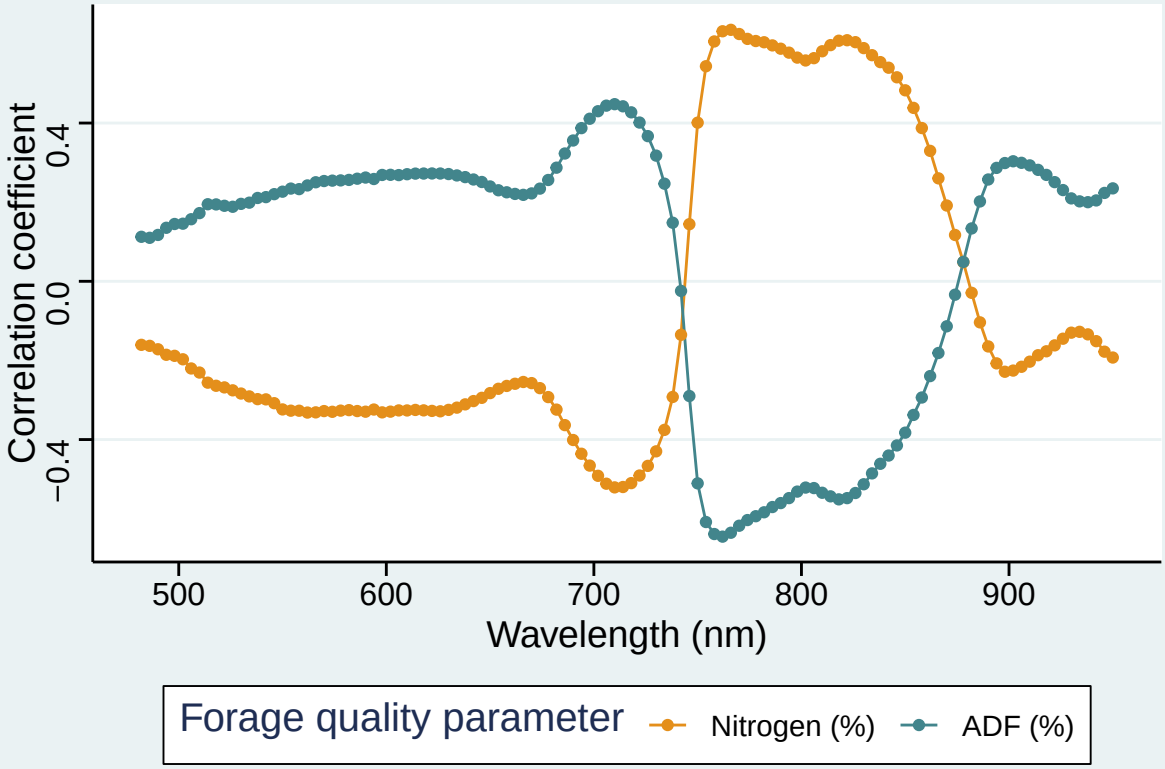

Original Reflectance − G3
H1
H2
Reflectance
0.0
0.2
0.4
0.6
500
700
900
Wavelength (nm)


Normalised Reflectance − G3
H1
H2
Reflectance
0.00
0.05
0.10
0.15
0.20
500
700
900
Wavelength (nm)


Original Reflectance − G4
H1
H2
H3
Reflectance
0.0
0.2
0.4
0.6
500
700
900
Wavelength (nm)

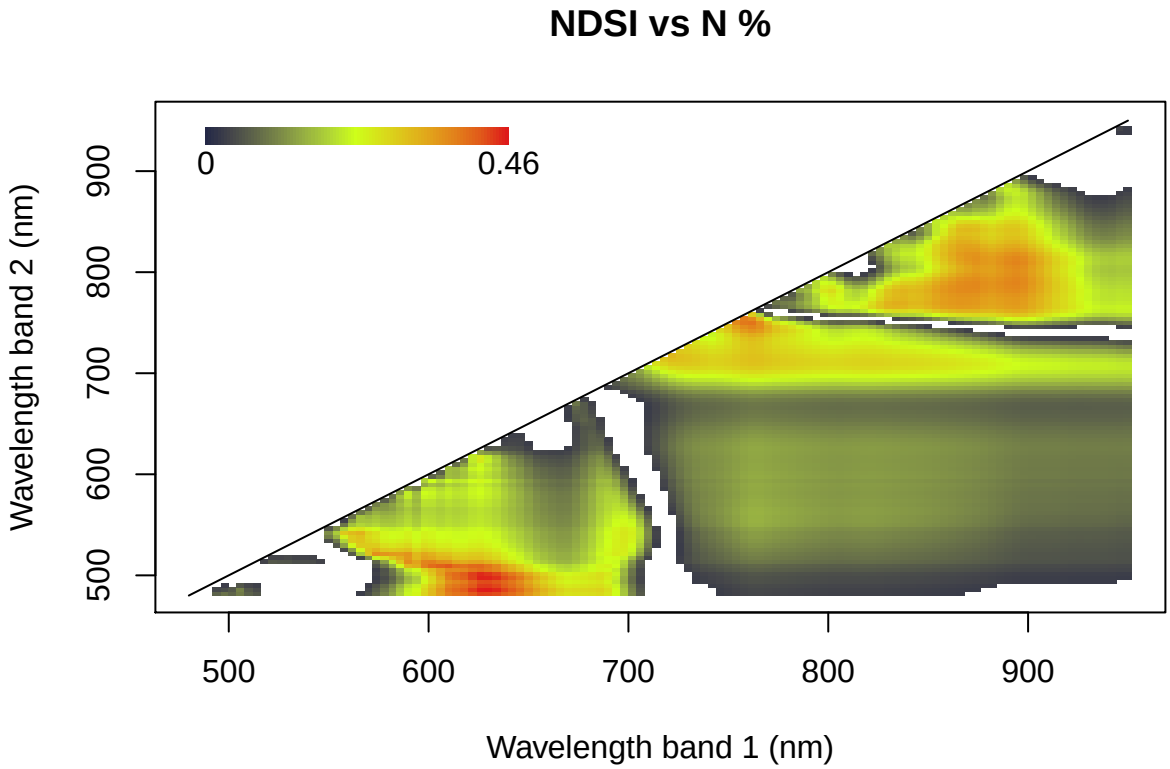

Normalised Reflectance − G4
H1
H2
H3
Reflectance
0.00
0.05
0.10
0.15
0.20
500
700
900
Wavelength (nm)

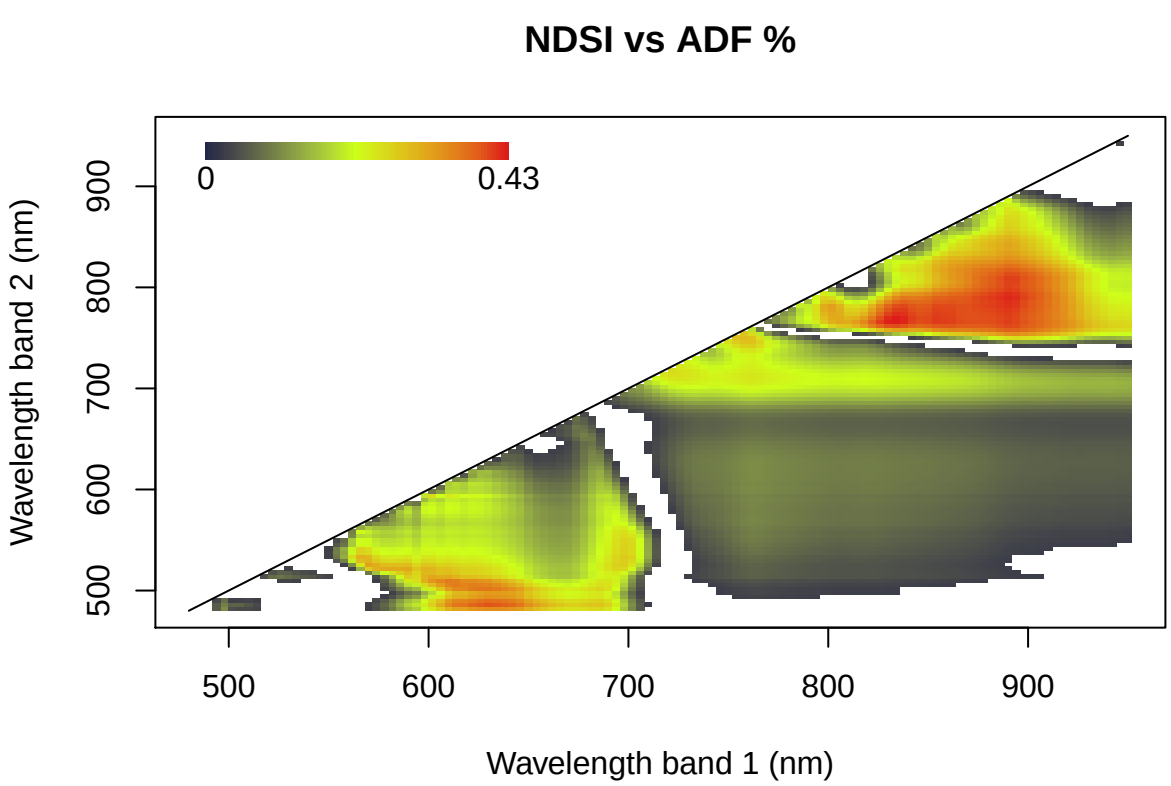
3 Correlation with single bands



Correlation coefficient with normalised spectral reflectance vs N (%) and ADF (%) (WIZ)

4 Linear regression models with normalised difference spectral indices (NDSI)




NDSI vs ADF %
0
0.43
Wavelength band 2 (nm)
500
600
700
800
900
Wavelength band 1 (nm)
500
600
700
800
900