

ILVO

Instituut voor Landbouw-
Visserij- en Voedingsonderzoek



Kippen en microalgen

Een duurzaam voederduo?

Sofie Van Nerom

Filip Van Immerseel

Johan Robbens

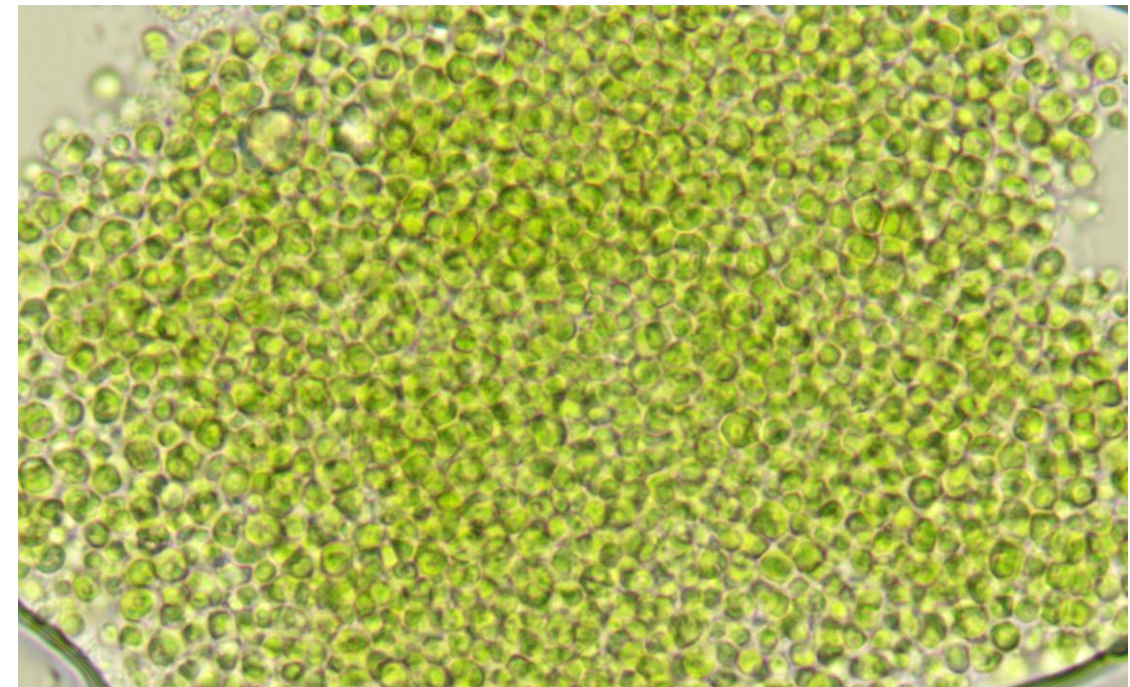
Evelyne Delezie

GeneBEcon


GHENT
UNIVERSITY

Context

- Microalgen: ééncellige algen, groeien in zoet of zout water
- Autotrofe microalgen: groeien door CO₂-captatie en licht
- Microalgen bevatten bio-actieve stoffen waaronder PUFA's en antioxidanten zoals carotenoïden, fenolen, ...
- Additief in kippenvoeder: potentiële antioxidatieve, antibacteriële, antivirale en anti-inflammatoire eigenschappen



Proefopzet

- 300 Ross 308 vleeskuikens (♂)
- 30 hokken, 10 behandelingen
- 10 kippen per pen
- Dag 1 tot 39
- Autotrofe onbehandelde *Chlorella vulgaris*
- Overdosis *Eimeria* vaccin op dag 11
- Staalname op dag 16, 23 en 39
- Individuele wegingen

B1	BLANK (geen challenge)
B2	0% (CON)
B3	0,25% autotroof
B4	0,5% autotroof
B5	0,75% autotroof
B6	1% autotroof
B7	1,25% autotroof
B8	1,5% autotroof
B9	1,75% autotroof
B10	2% autotroof

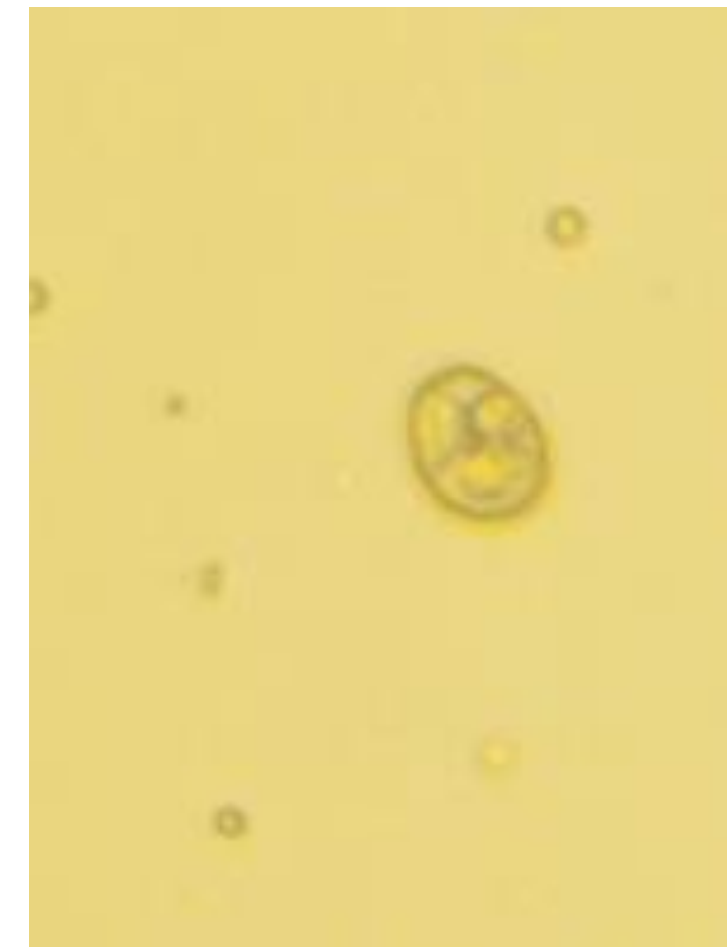
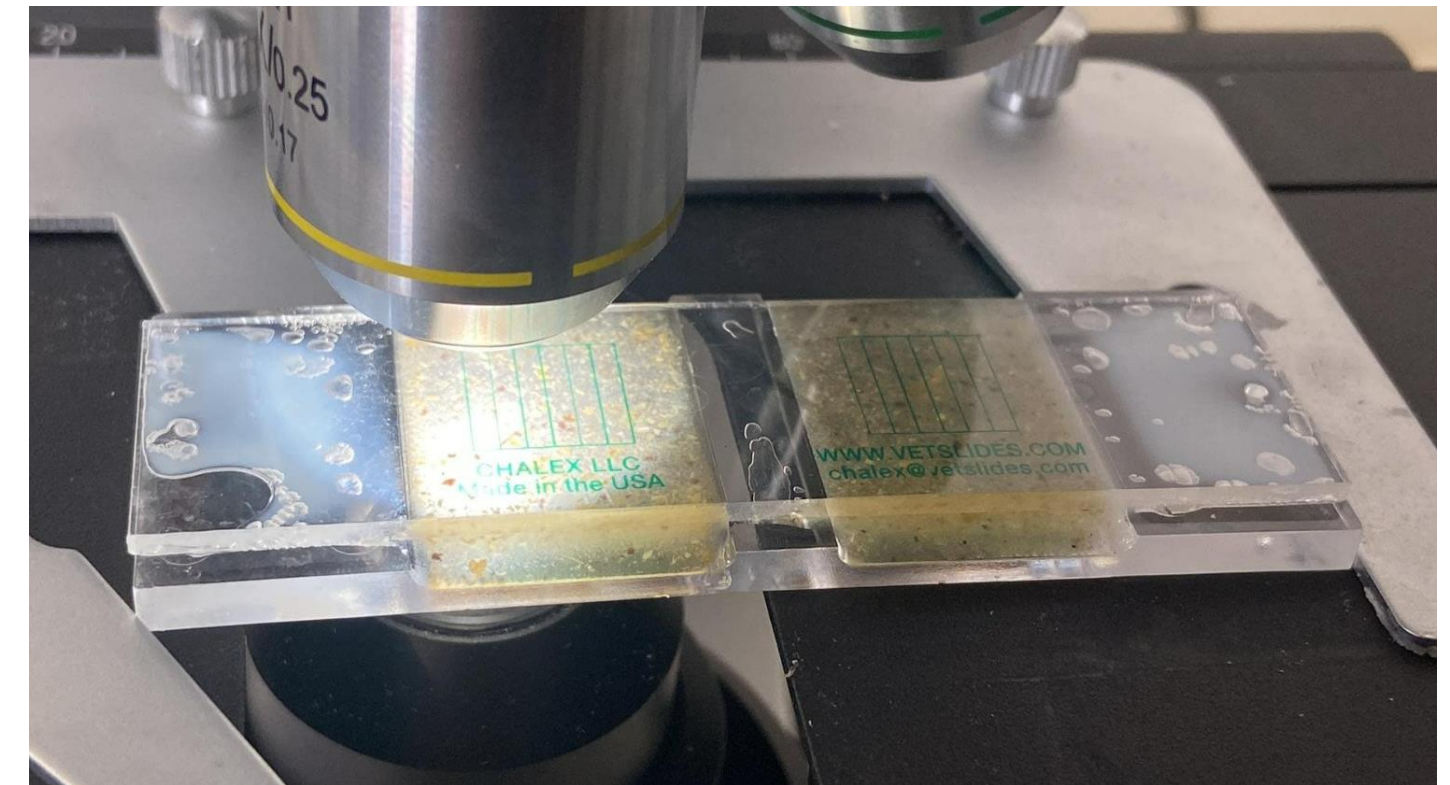


Eimeria challenge

Oöcysten per gram mest

Vaccinatie dag +4	Vaccinatie dag +6	Vaccinatie dag +9
< LOD	10^3	10^2

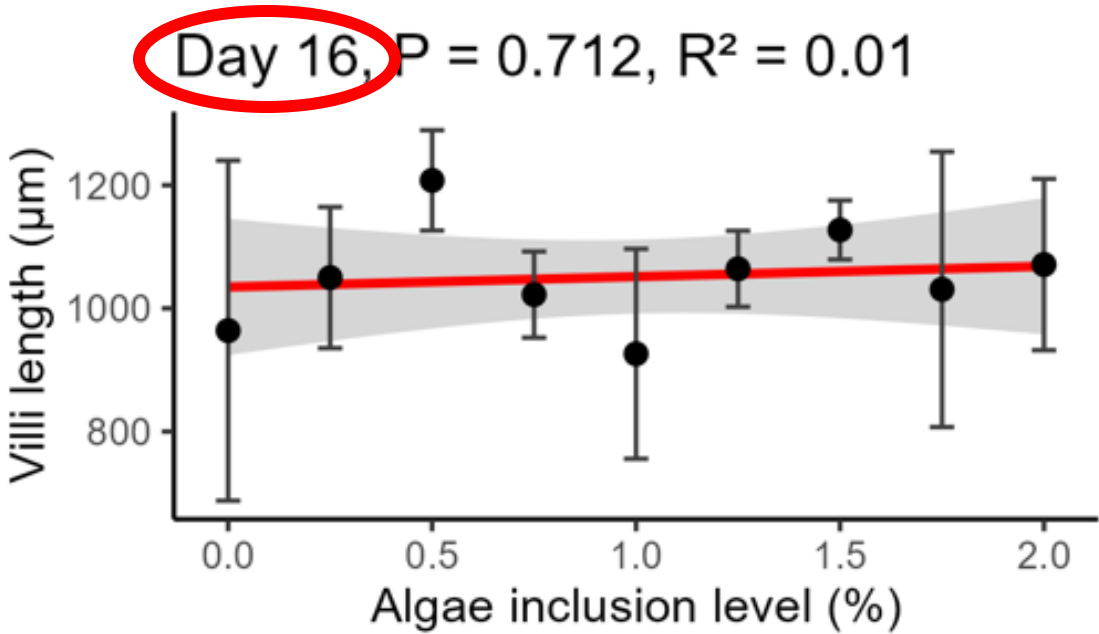
➡ Challenge effectief



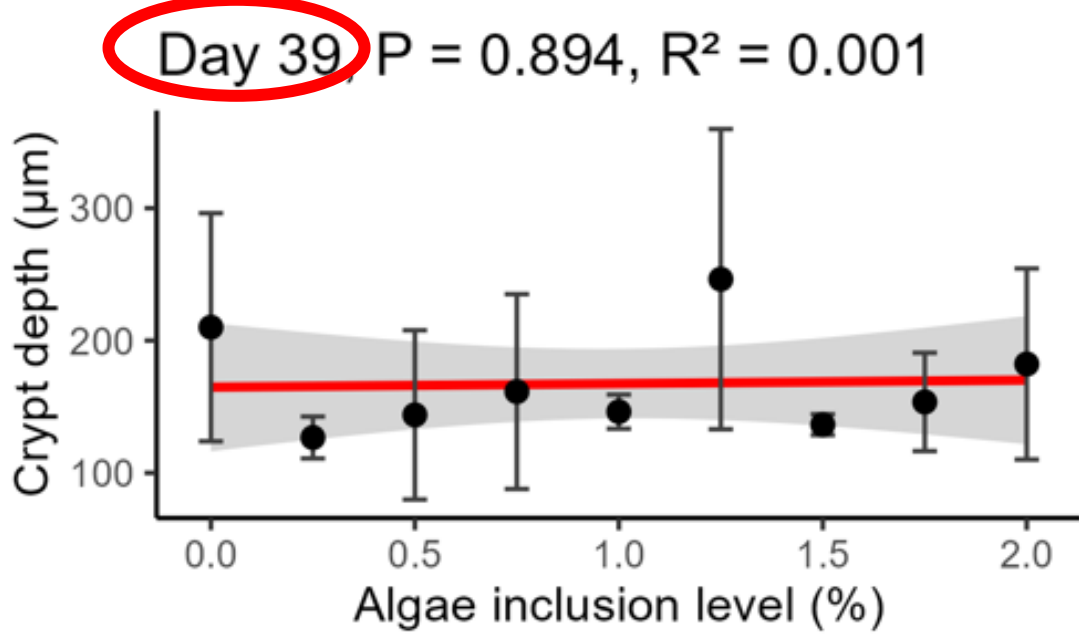
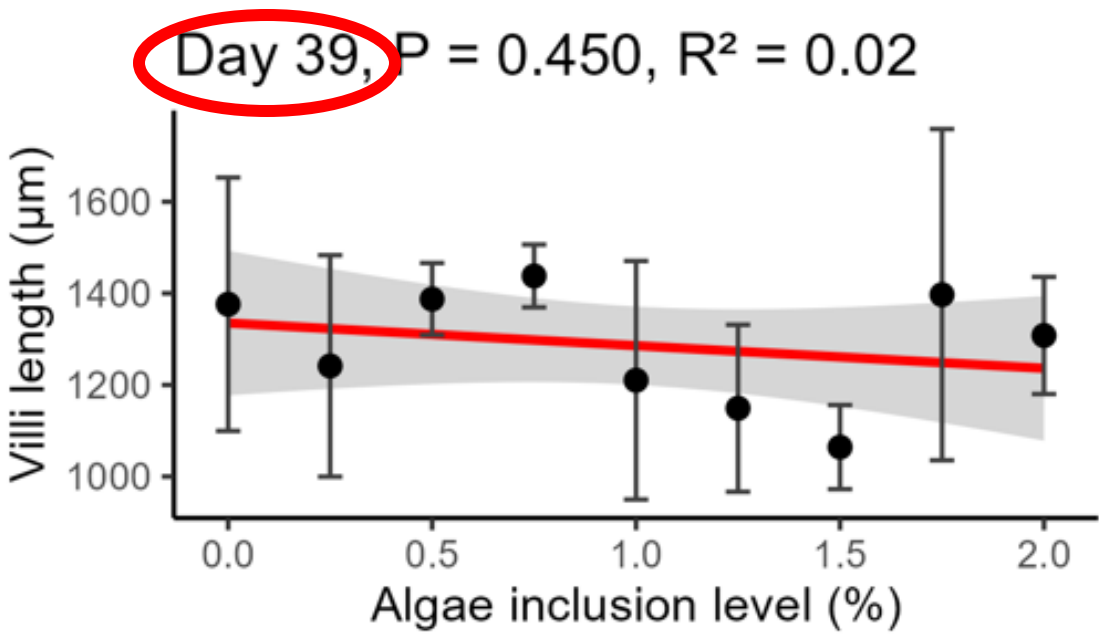
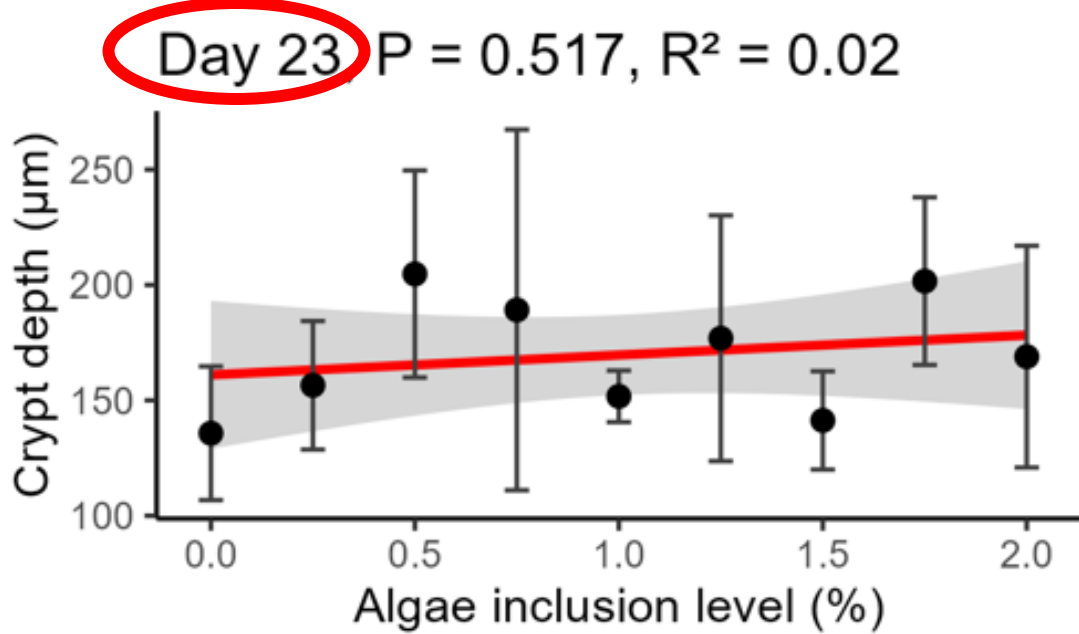
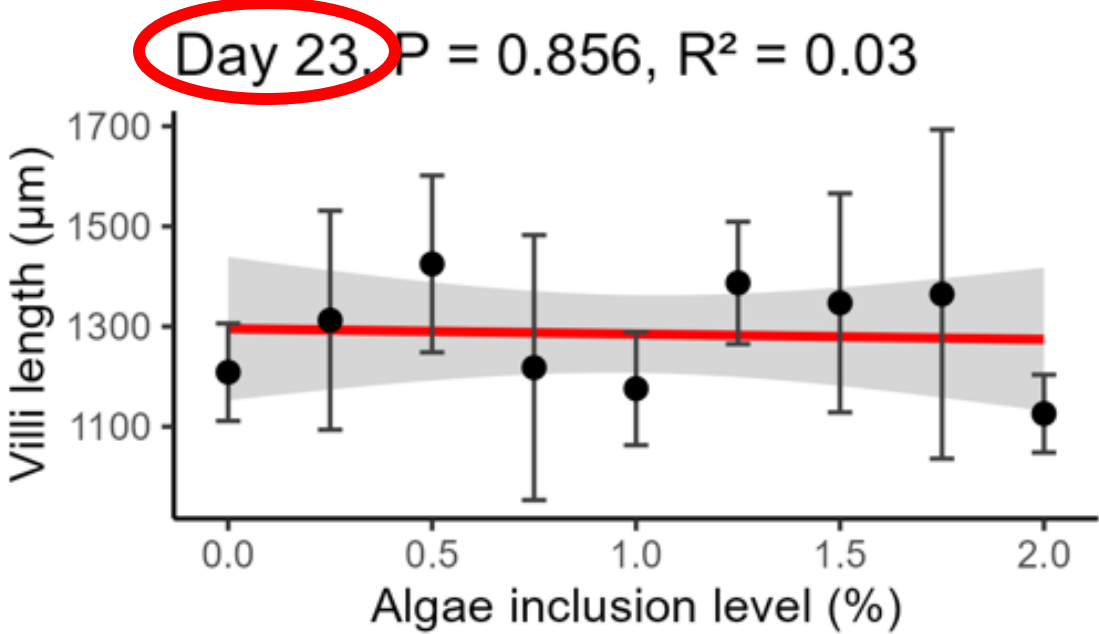
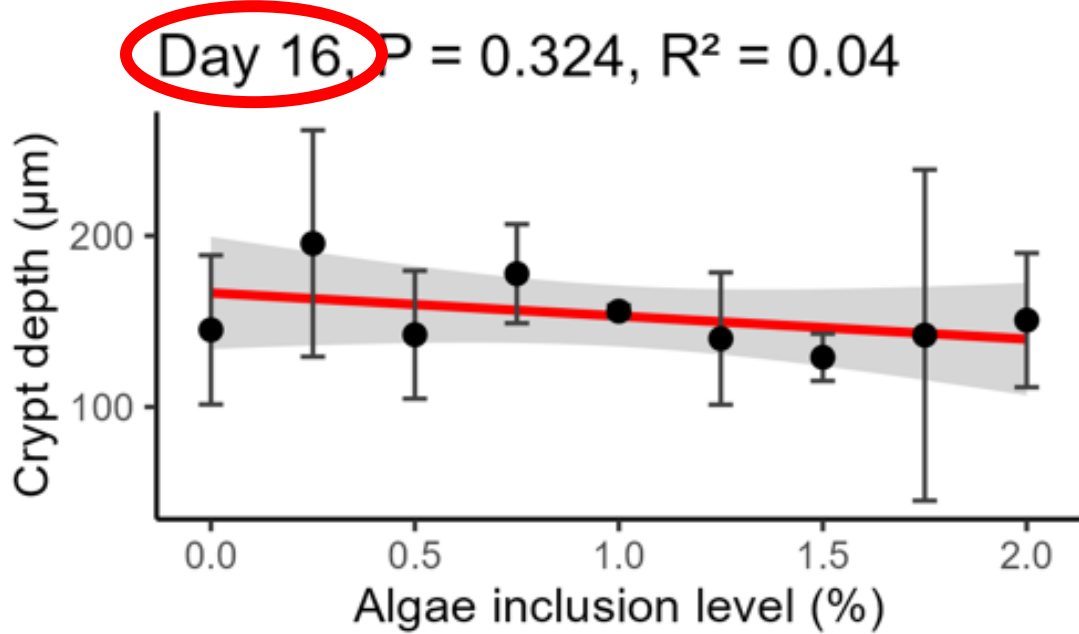
Histologie



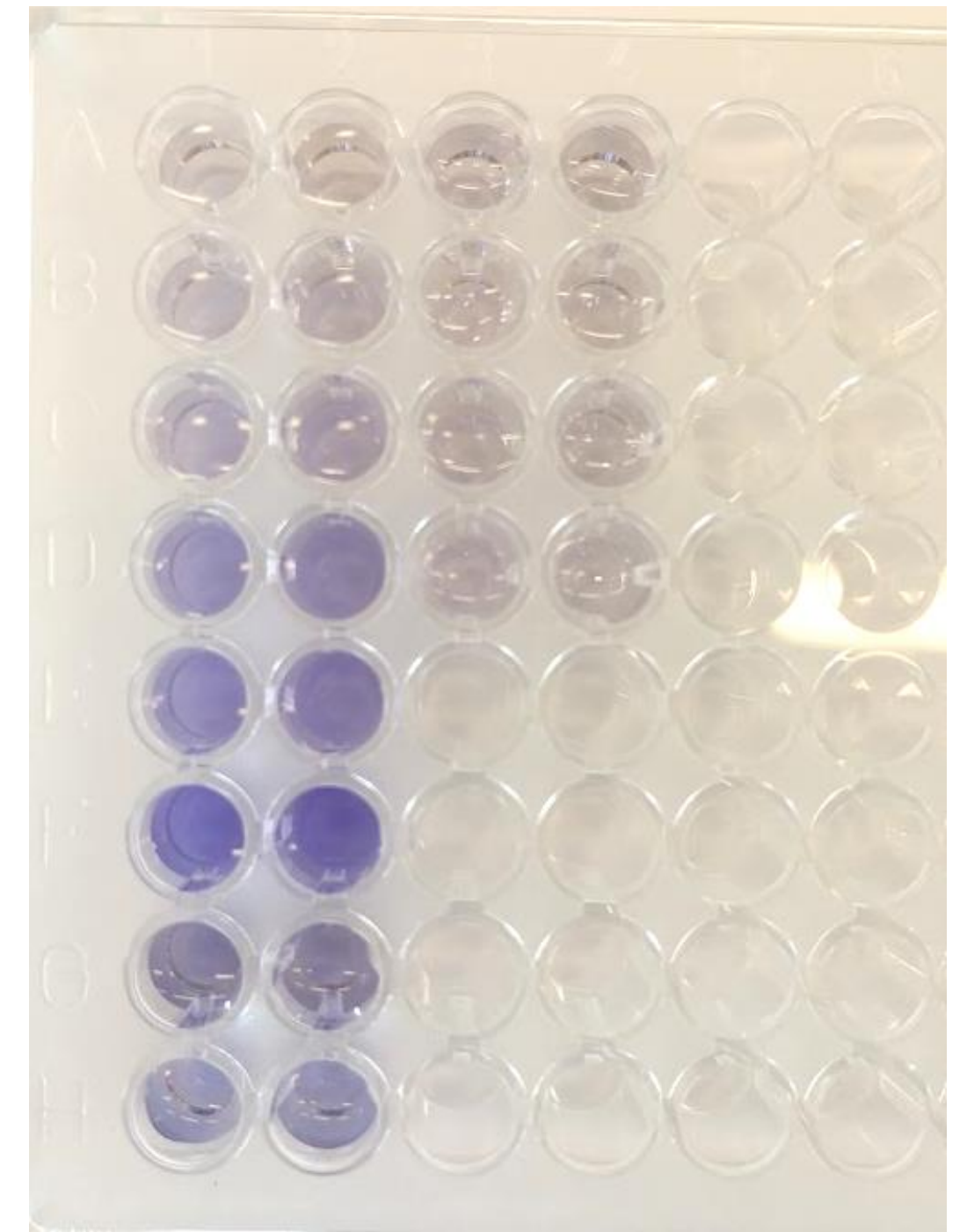
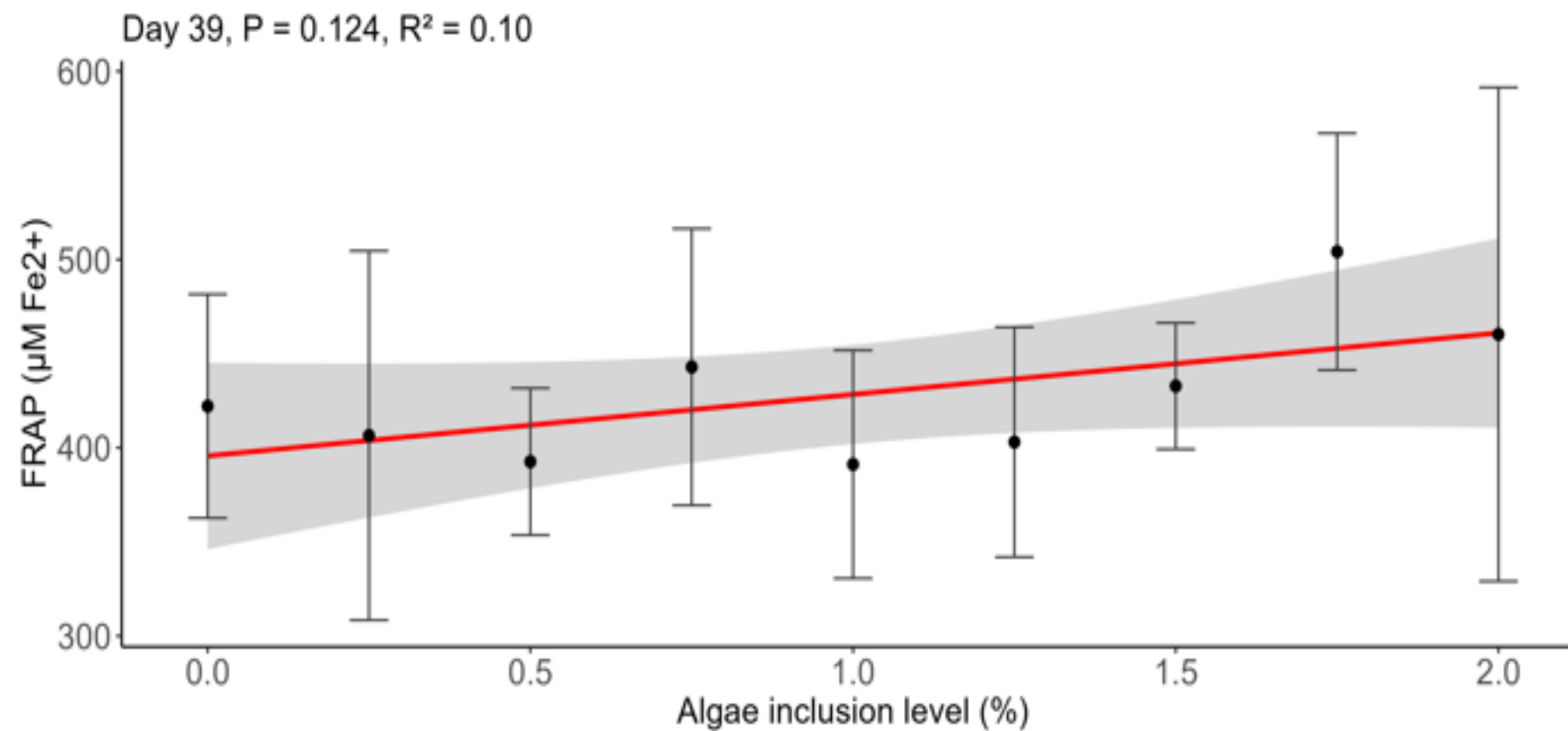
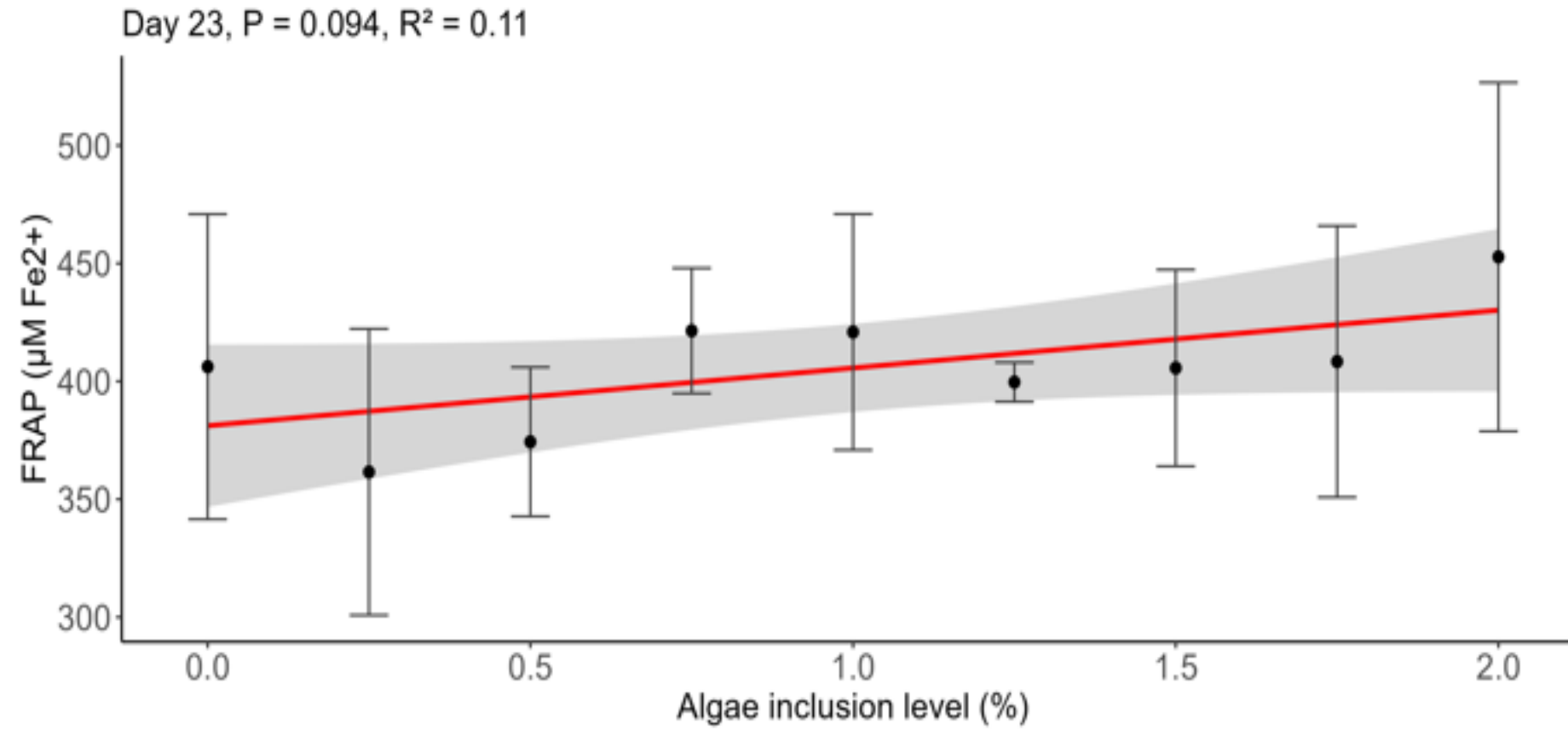
Villi lengte



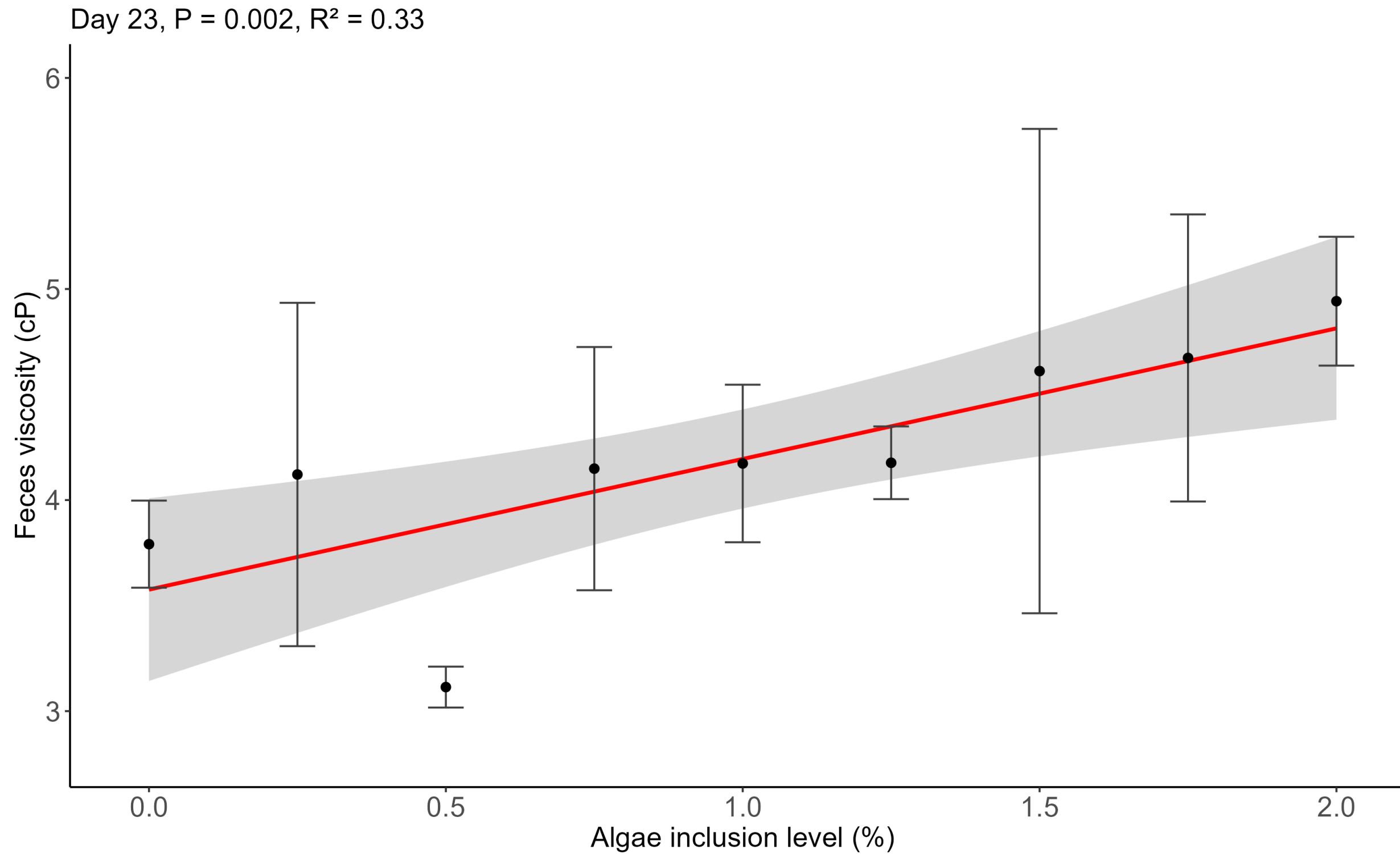
Crypt diepte



Anti-oxidatieve capaciteit (FRAP)



Viscositeit ileale inhoud



Kleur borstfilets



0%



2%



0%

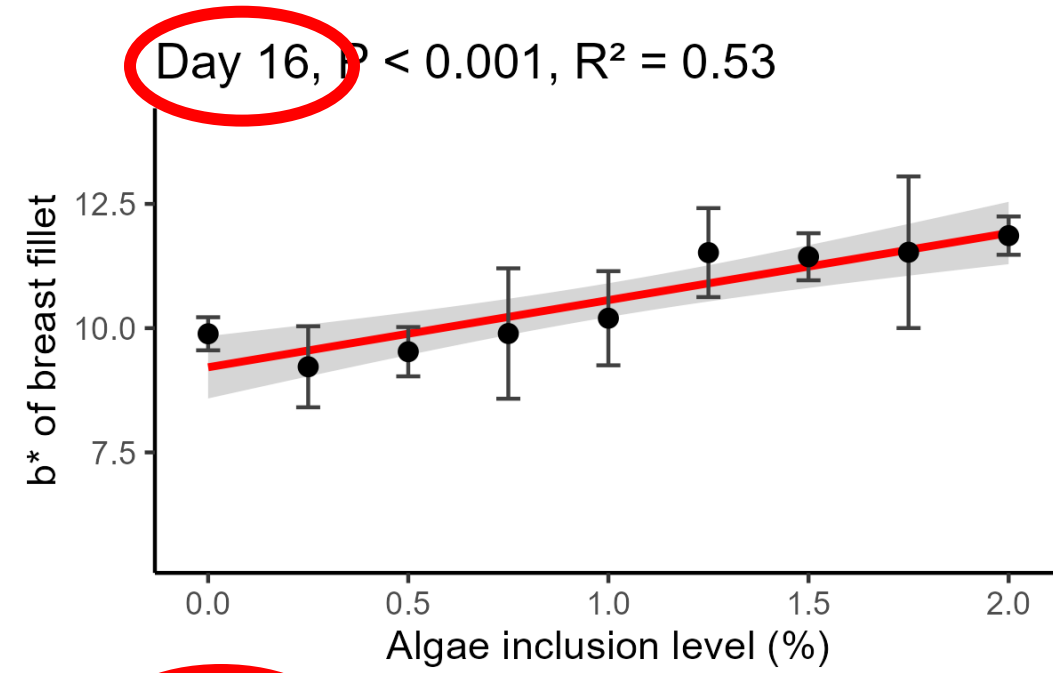
2%



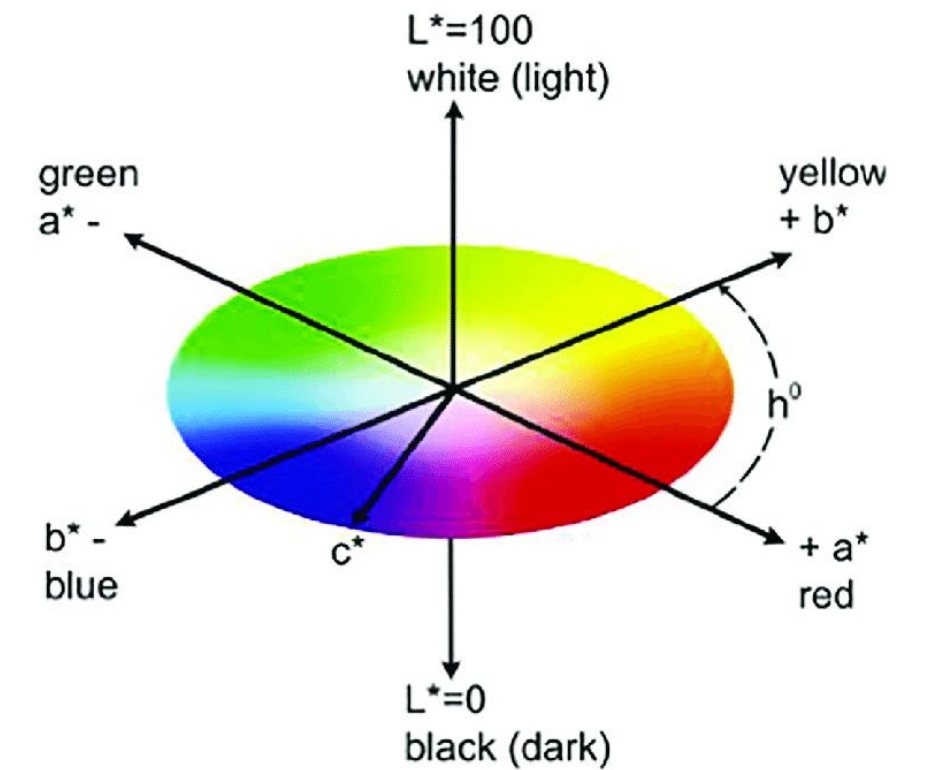
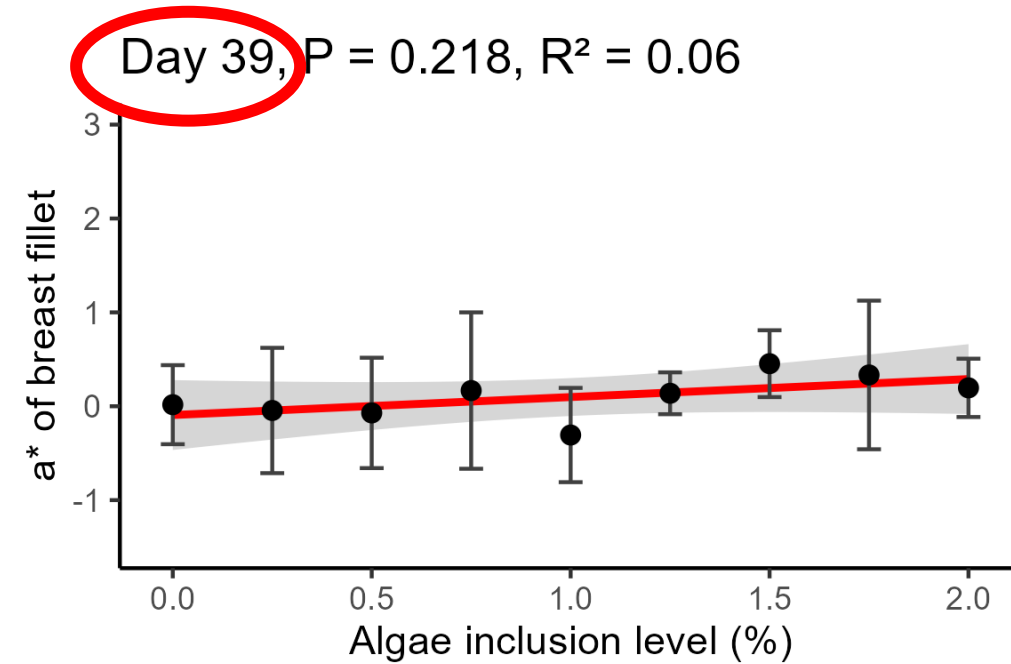
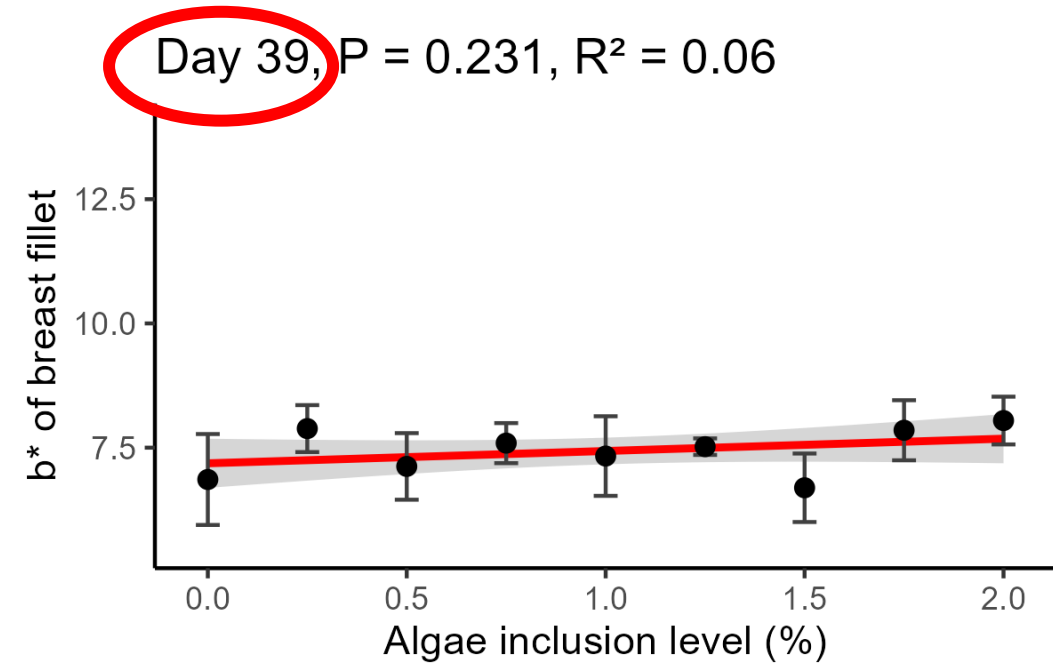
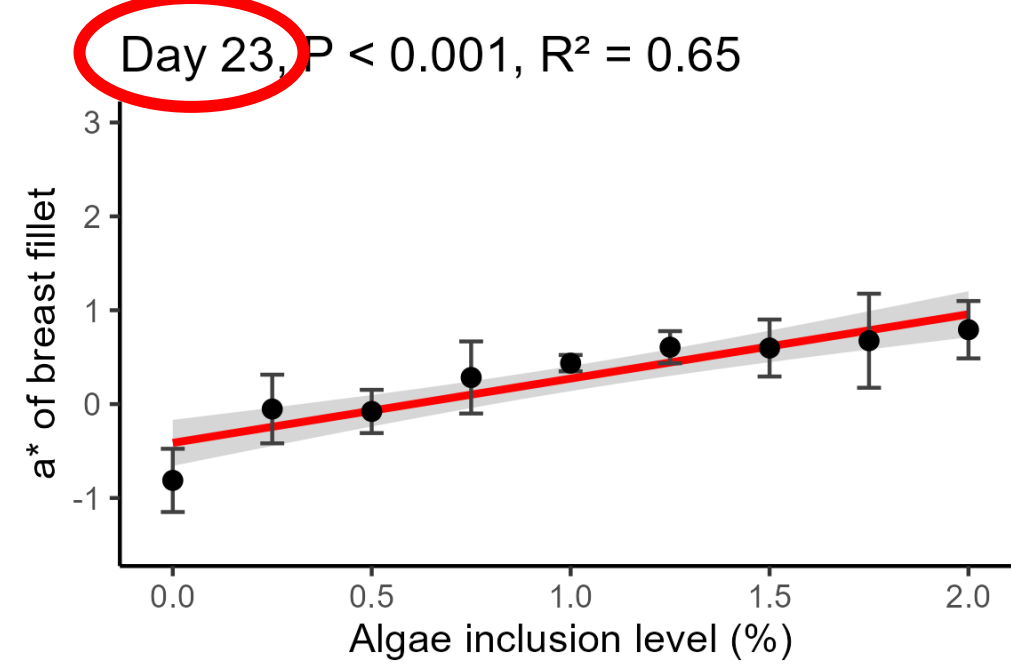
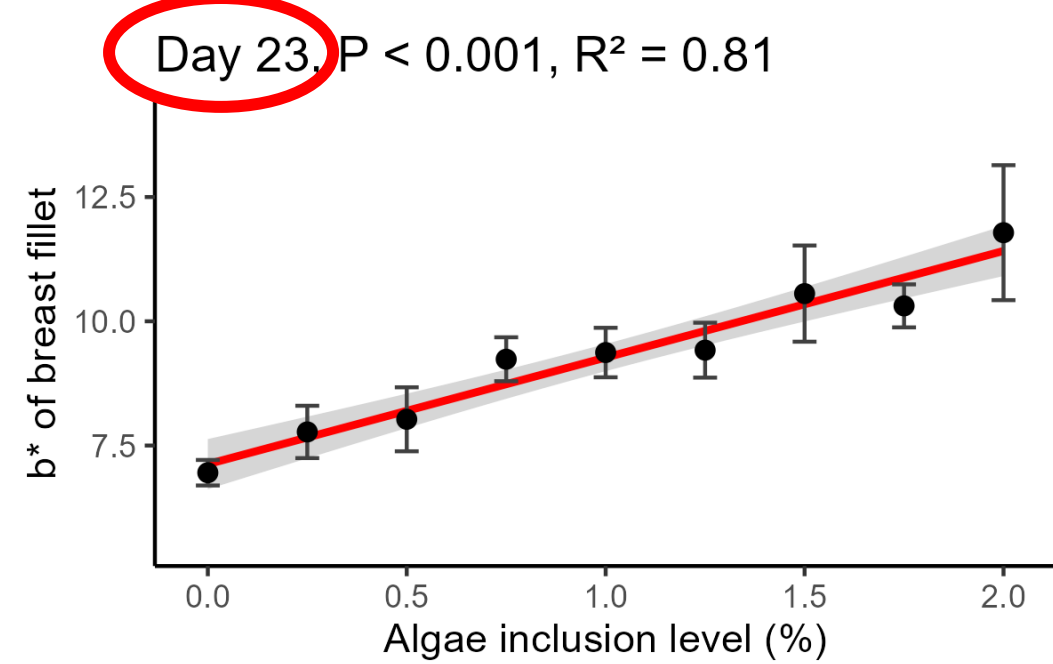
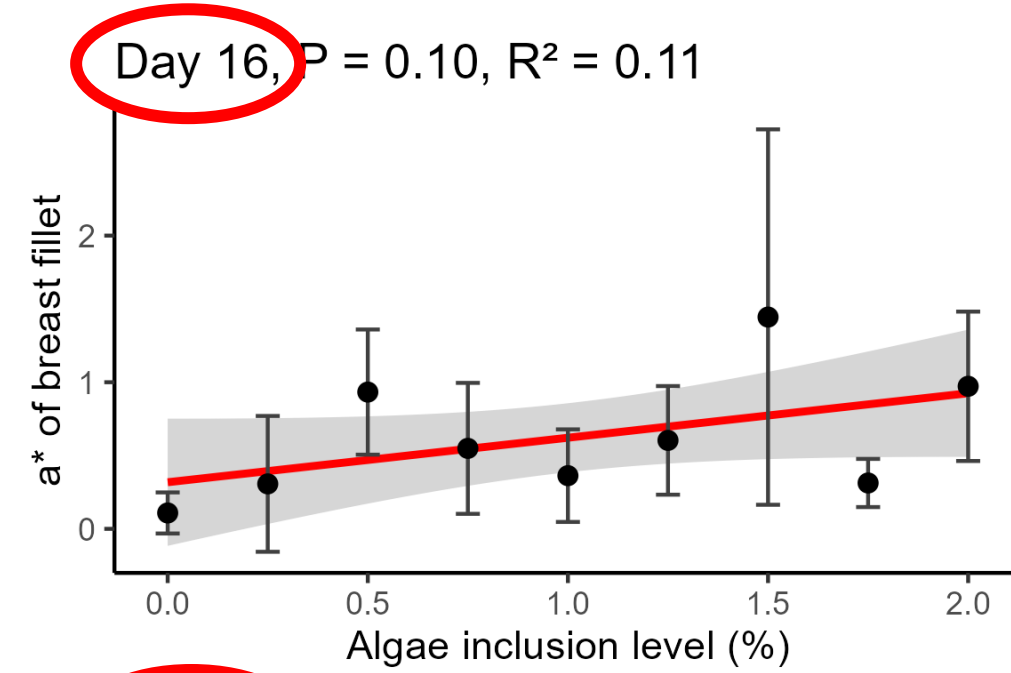
0%

2%

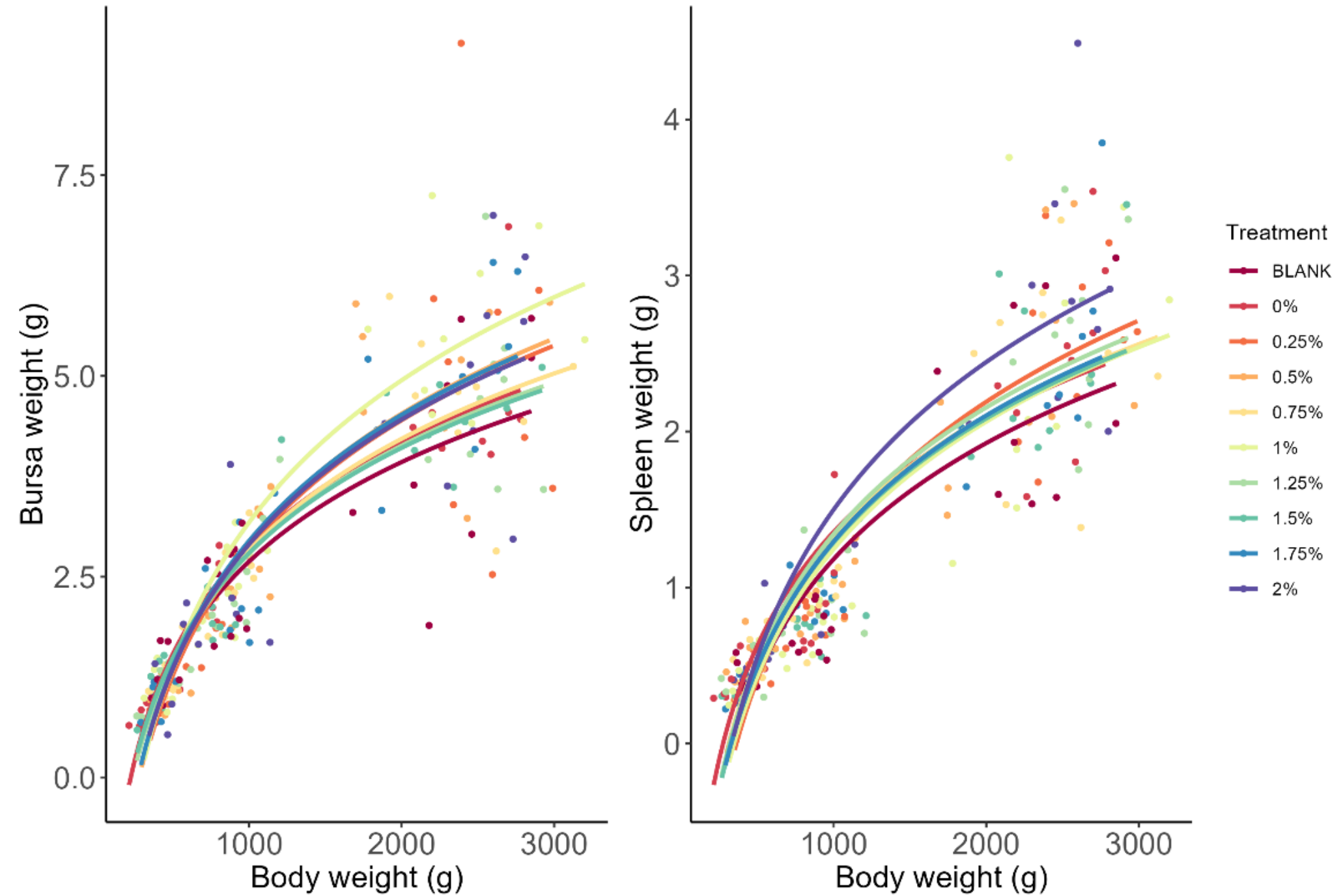
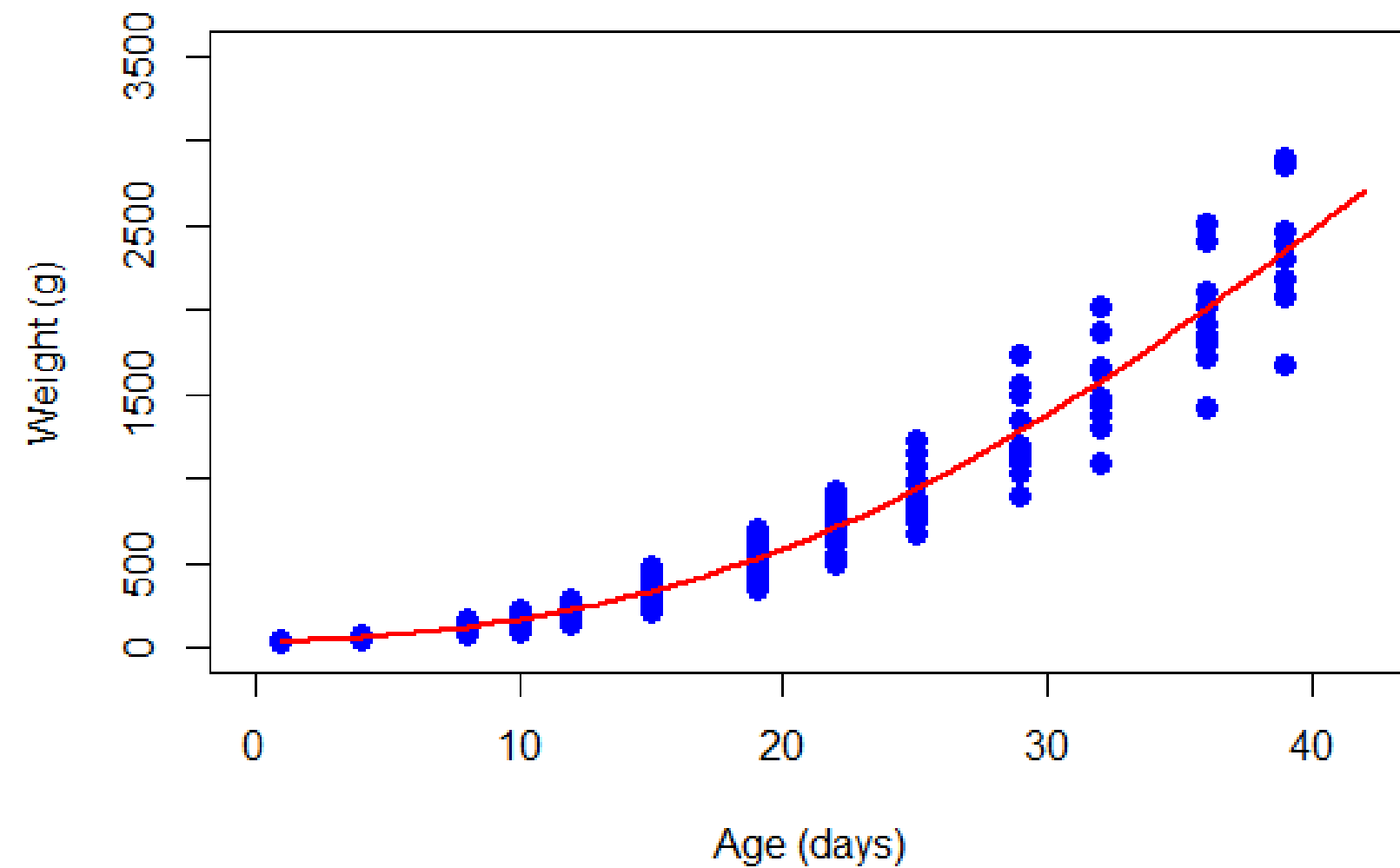
b*



a*



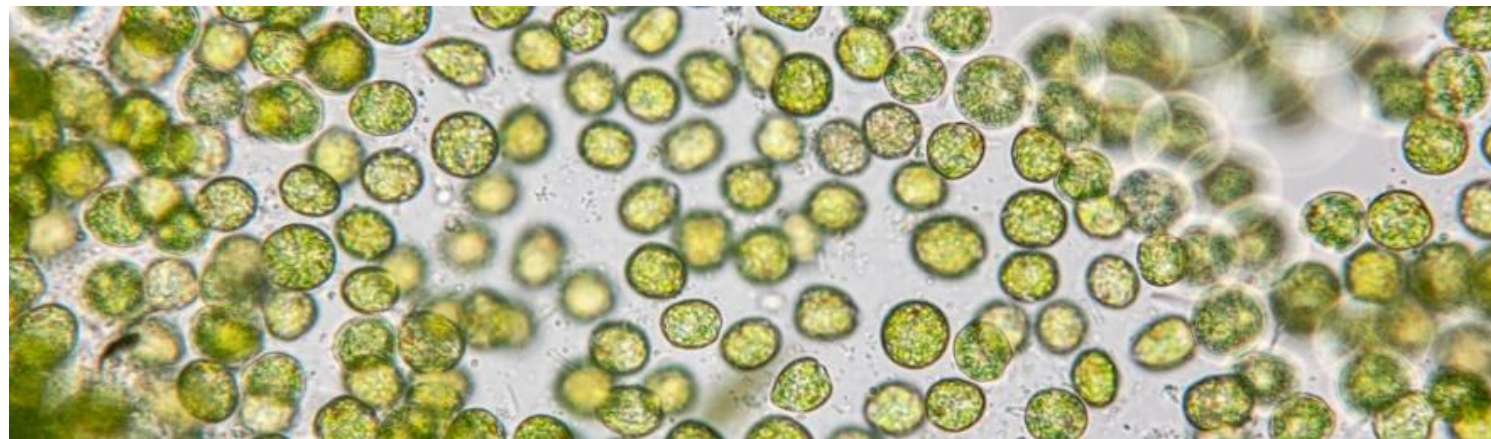
Groei, bursa en milt



Take home messages

Tussen 0 en 2% inmengen van microalgen in kippenvoeder:

- Geen effecten van microalgen op groei, histologie, immuniteit
- Microalgen kunnen viscositeit van voeder en darminhoud verhogen
- Kleur van borstfilets wordt geler/roder door toevoeging microalgen
- Lichte trend naar verhoogde anti-oxidatieve capaciteit in het bloed door microalgen



Bedankt!

Contact

Sofie Van Nerom

Sofie.vannerom@ilvo.vlaanderen.be

Instituut voor Landbouw-,
Visserij- en Voedingsonderzoek
Burg. Van Gansberghelaan 119
9090 Merelbeke-Melle

ilvo@ilvo.vlaanderen.be

www.ilvo.vlaanderen.be