

Exploring the effects of Biofloc technology on the growth performance of temperate freshwater fish

J. Sabbe¹ , D. Colson¹, C. Rougeot¹

¹ Aquatic Resources Management and Aquaculture Unit (UGeRAA), Liège University, Tihange, Belgium
E-mail : j.sabbe@uliege.be

Interreg

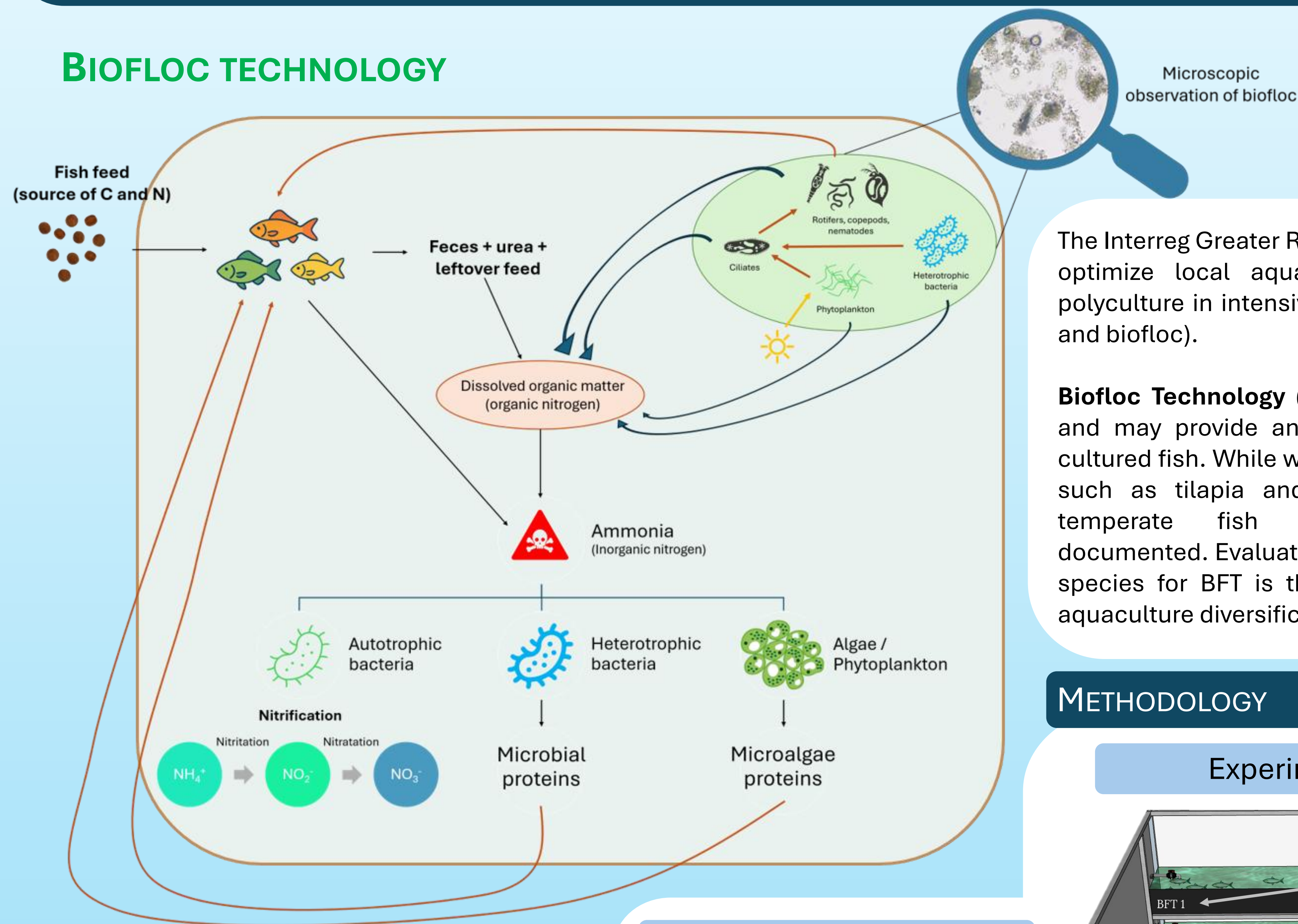


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POLYRAS

BIOFLOC TECHNOLOGY



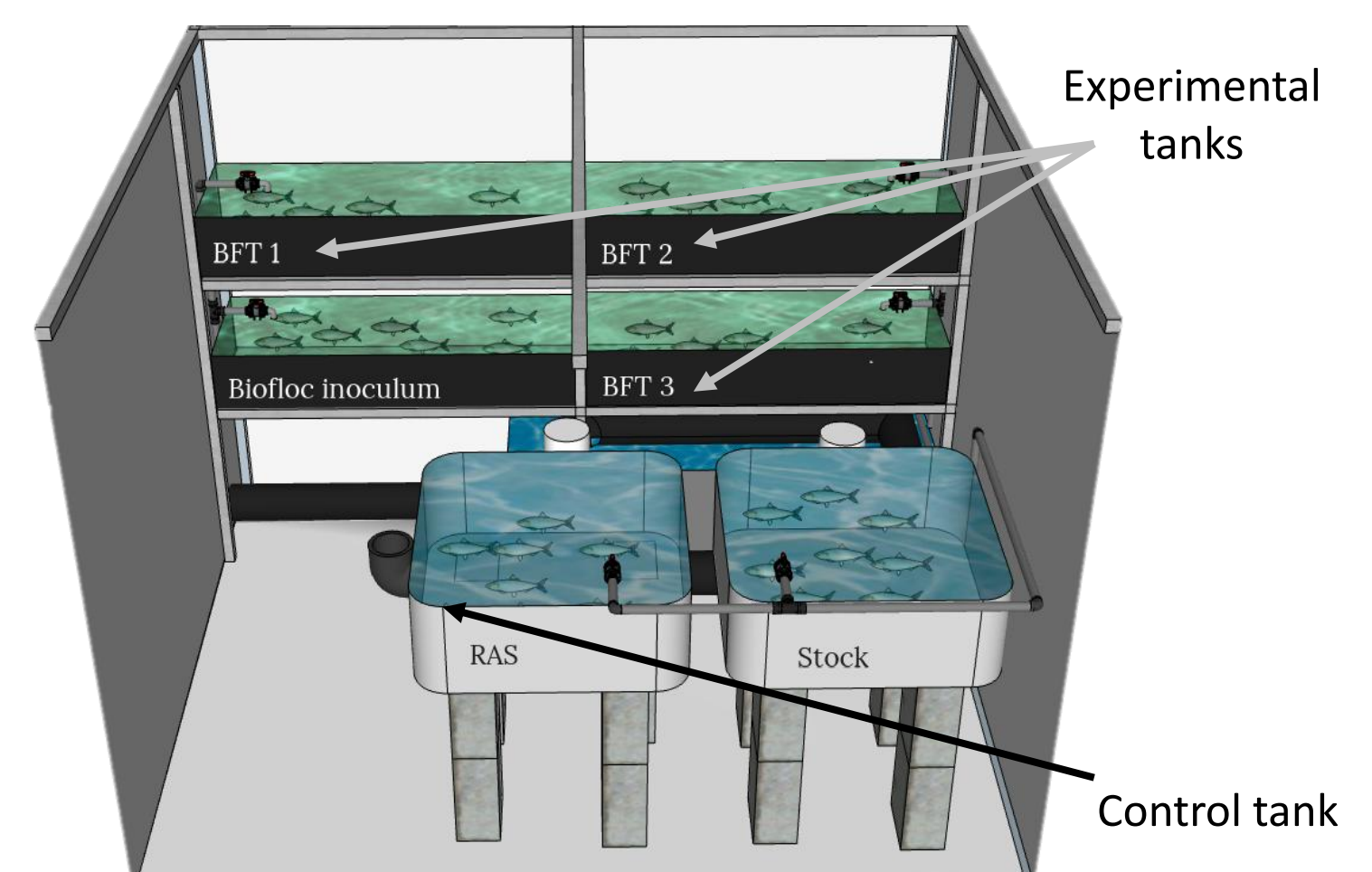
INTRODUCTION

The Interreg Greater Region project **PolyRAS** aims to optimize local aquaculture production through polyculture in intensive systems (RAS, aquaponics, and biofloc).

Biofloc Technology (BFT) improves **water quality** and may provide an **additional food source** for cultured fish. While widely used for tropical species such as tilapia and shrimp, its application to temperate fish species remains poorly documented. Evaluating the suitability of temperate species for BFT is therefore essential to support aquaculture diversification.

METHODOLOGY

Experimental design



OBJECTIF

Could biofloc technology be extended beyond tropical aquaculture? This study assessed its potential for the culture of several temperate fish species.

Monitoring

- Period : **3 weeks**
- 3 BFT tanks + 1 RAS tank (control)
- Monitor : water parameters + fish growth
- Initial biomass : **6 kg/m³**

RESULTS

M. salmoides

	BFT 1	BFT 2	BFT 3	RAS
Survie	100 %	100 %	100 %	100 %
FCR*	3.4	2.4	/	1.8

Compatible with BFT rearing if the floc volume is under 15 ml/L

T. tinca

	BFT 1	BFT 2	BFT 3	RAS
Survie	100 %	100 %	100 %	100 %
FCR*	2.3	1.5	1.9	2.3

Completely compatible with BFT rearing



Micropterus salmoides



Silurus glanis



Acipenser gueldenstaedtii



Tinca tinca



Perca fluviatilis

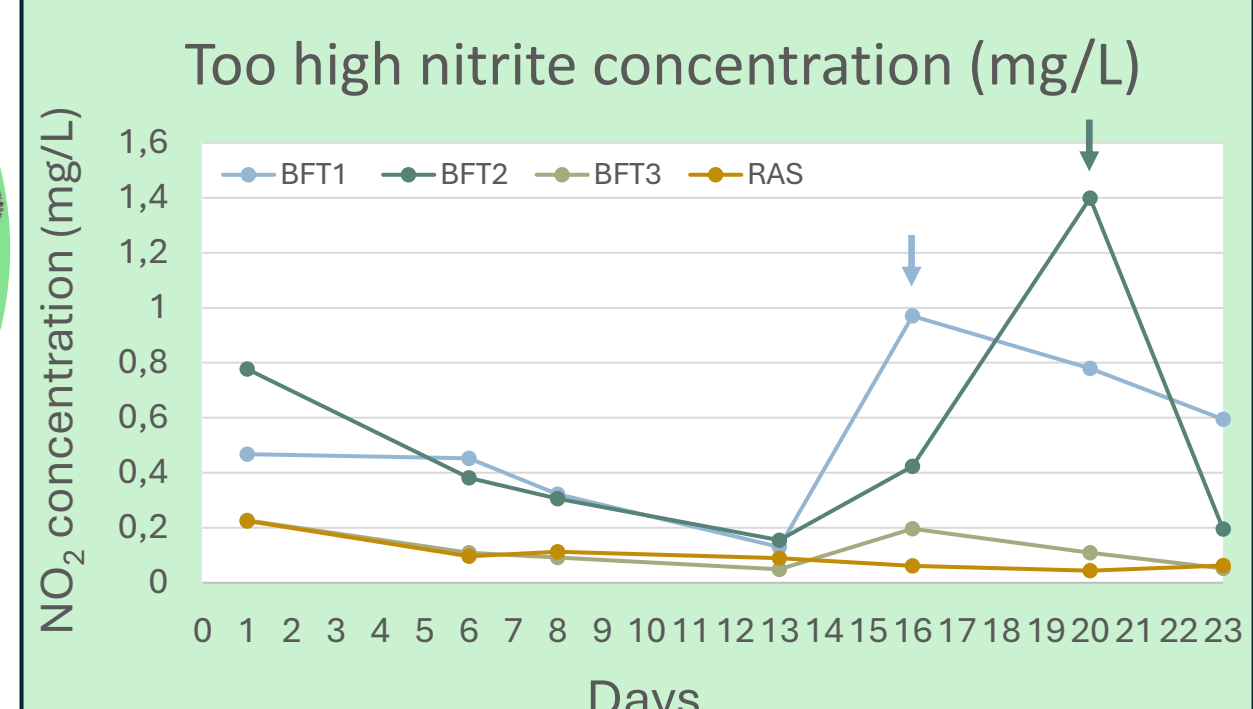


Sander lucioperca

S. Glanis / A. gueldenstaedtii / P. fluviatilis
Not suitable for BFT rearing

S. lucioperca

	BFT 1	BFT 2	BFT 3	RAS
Survie	85 %	45 %	100 %	100 %
FCR*	/	/	1.2	0.7



Promising species for stable BFT rearing

*Food Conversion Ratio

CONCLUSION

Biofloc technology shows promising potential for temperate aquaculture, with largemouth bass, pike-perch, and tench successfully reared.