UNESCO-IWRA ONLINE CONFERENCE
17-19 JANUARY 2023
3RD IN THE IWRA ONLINE CONFERENCE SERIES

Emerging Pollutants: Protecting Water Quality for the Health of People and the Environment

Bioremediation of Azo dye Tartrazine by three different microalgae genera

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15:50 CET (17 January 2023)

unesco
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Objectives of study

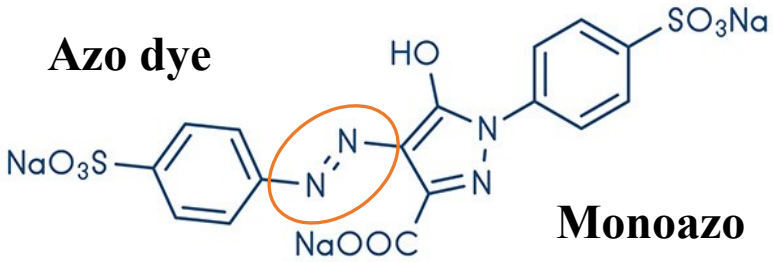
We analyzed the growth and degradation capacity of three axenic microalgal species in the presence of Tartrazine.

Strain	Species
CCMA-UFSCar 62	*Scenedesmus spinosus* Chodat (Chlorophyceae, Sphaeropleales)
CCMA-UFSCar 138	Chlamydomonadales unidentified (Chlorophyceae, Chlamydomonadales)
CCMA- UFSCar 320	*Muriella decolor* (Trebouxiophyceae, Chlorellales)

CCMA-UFSCar

Tartrazine

Azo dye



Monoazo

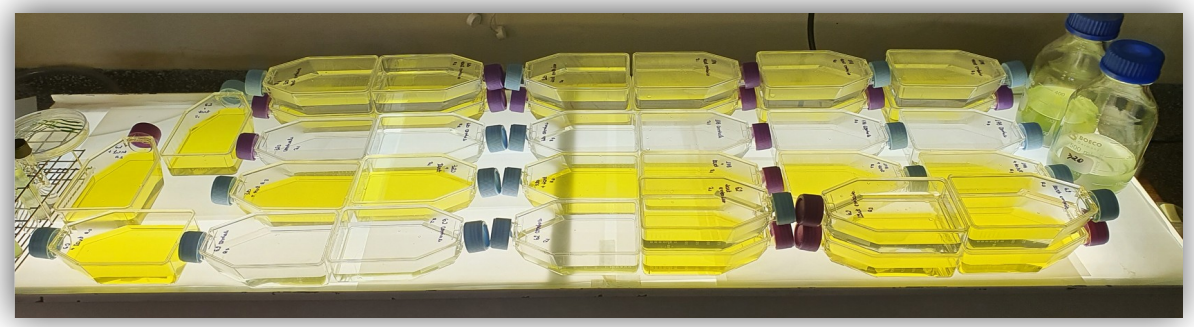
alimentos/

Can affect human health and cause negative impacts in aquatic communities.

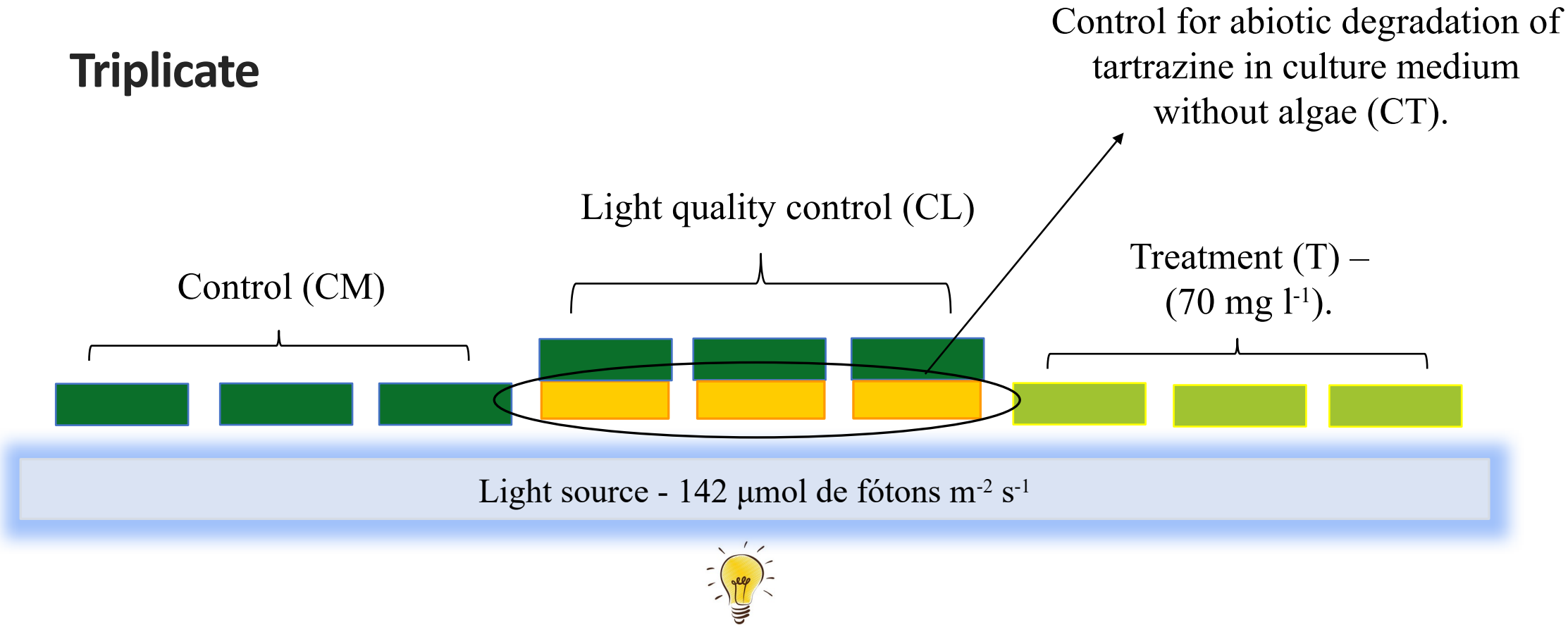
udica-

Low dissolved oxygen concentration

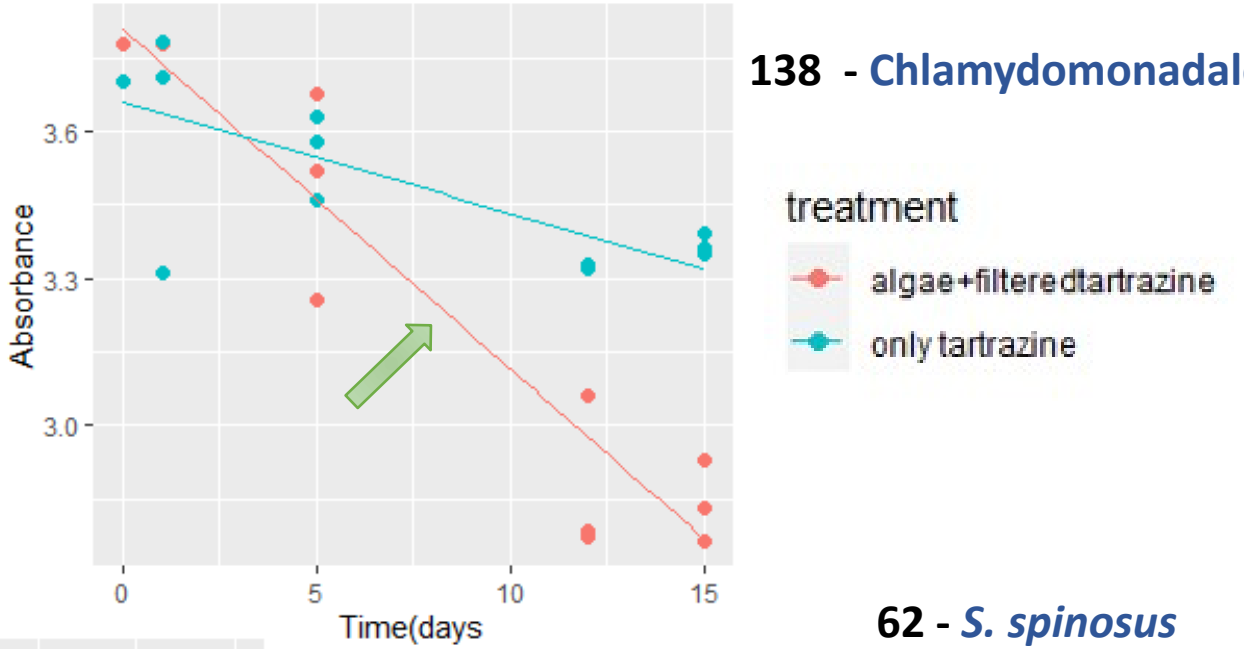
Methodology



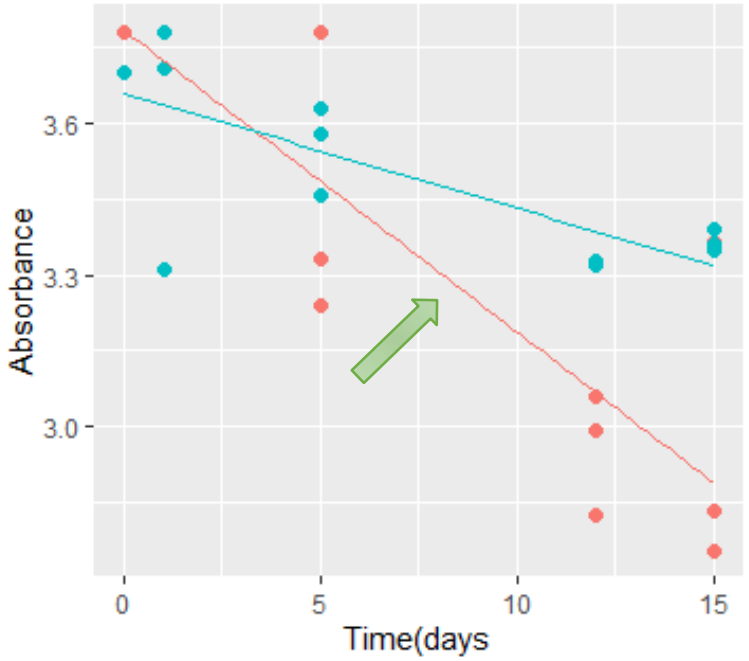
Triplicate



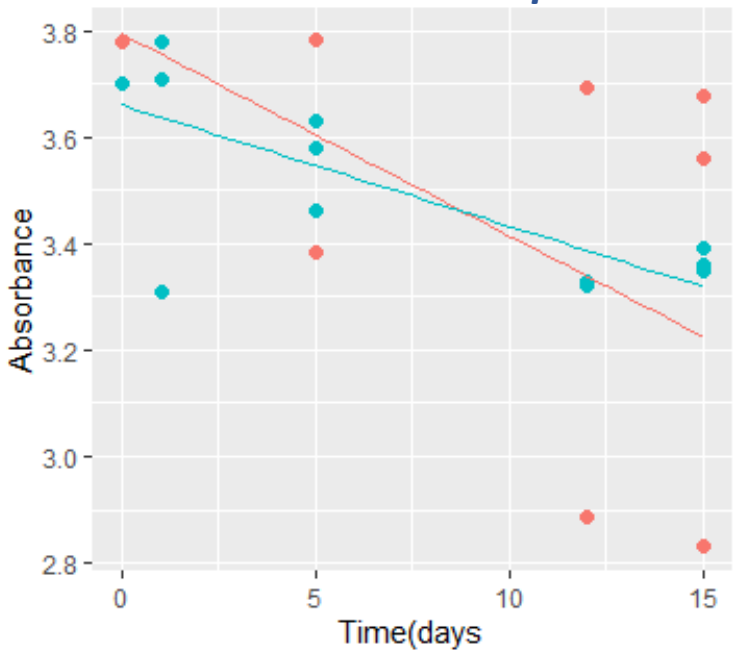
138 - Chlamydomonadales



320 - *M. decolor*



62 - *S. spinosus*



Results

CCMA-UFSCar 138
p= 0,02 → 24,5% degradation

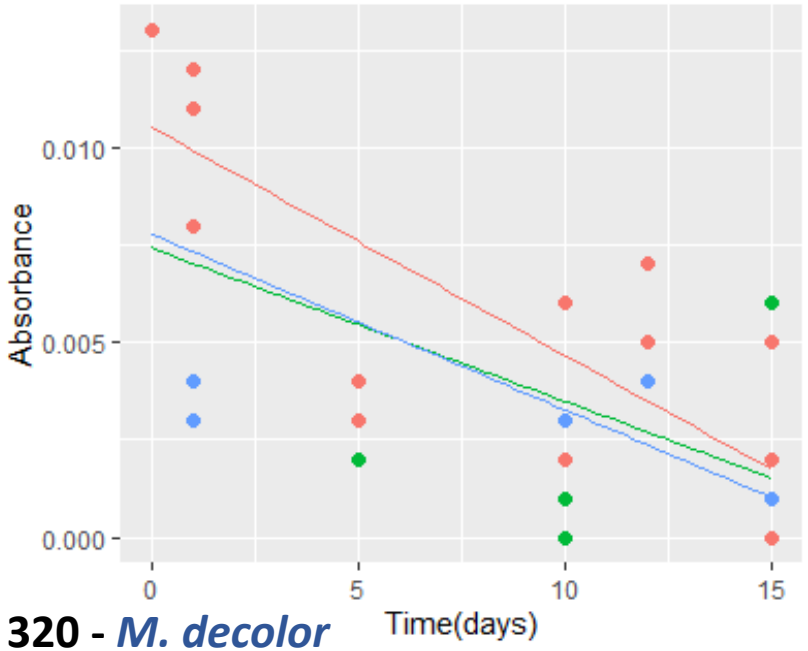
CCMA-UFSCar 320
p= 0,03 → 21% degradation

CCMA-UFSCar 62
p= 0,1 → 11% degradation

(ANCOVA)

Results

138 - Chlamydomonadales



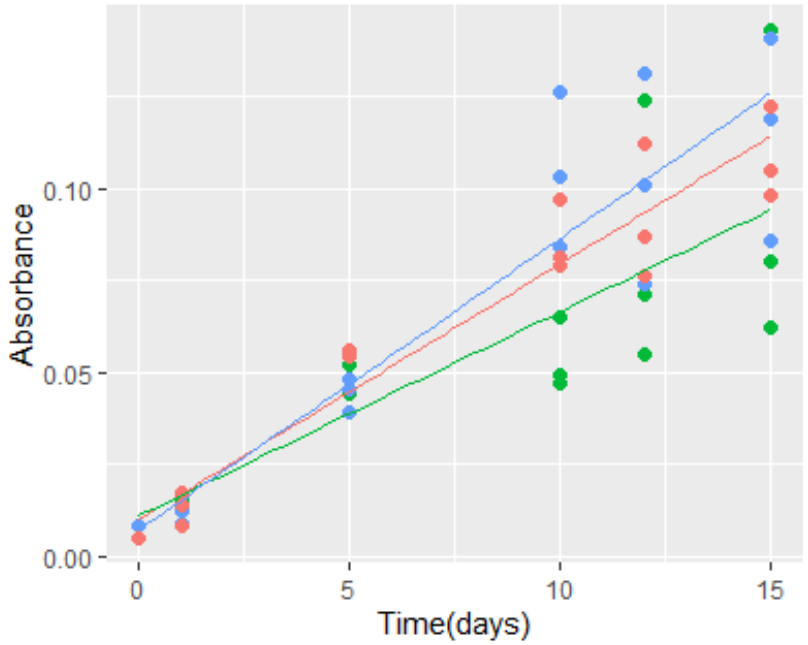
CCMA-UFSCar 138
formed a biofilm on the flask wall

CCMA-UFSCar 320
p = 0,08

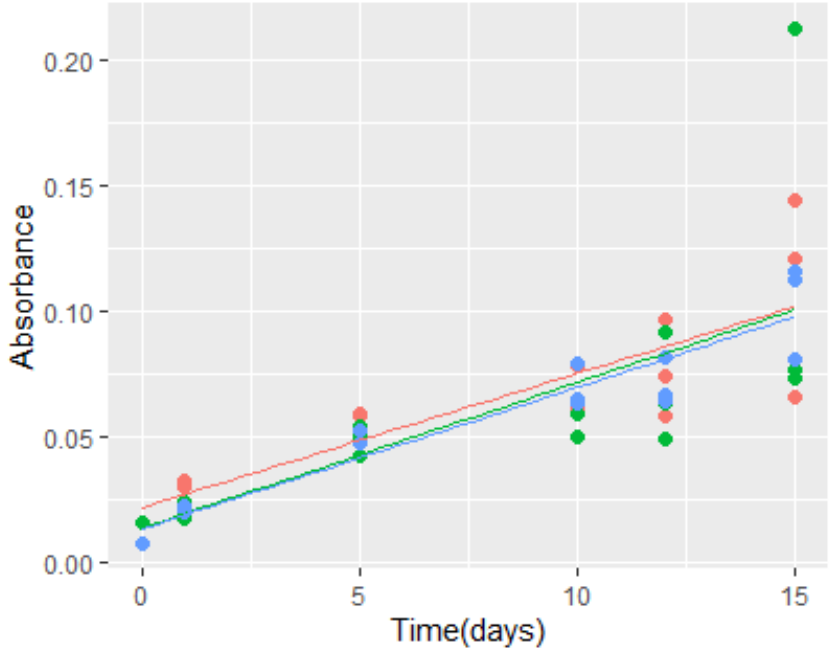
CCMA-UFSCar 62
p = 0,94

(ANCOVA)

320 - *M. decolor*



62 - *S. spinosus*



Relevance