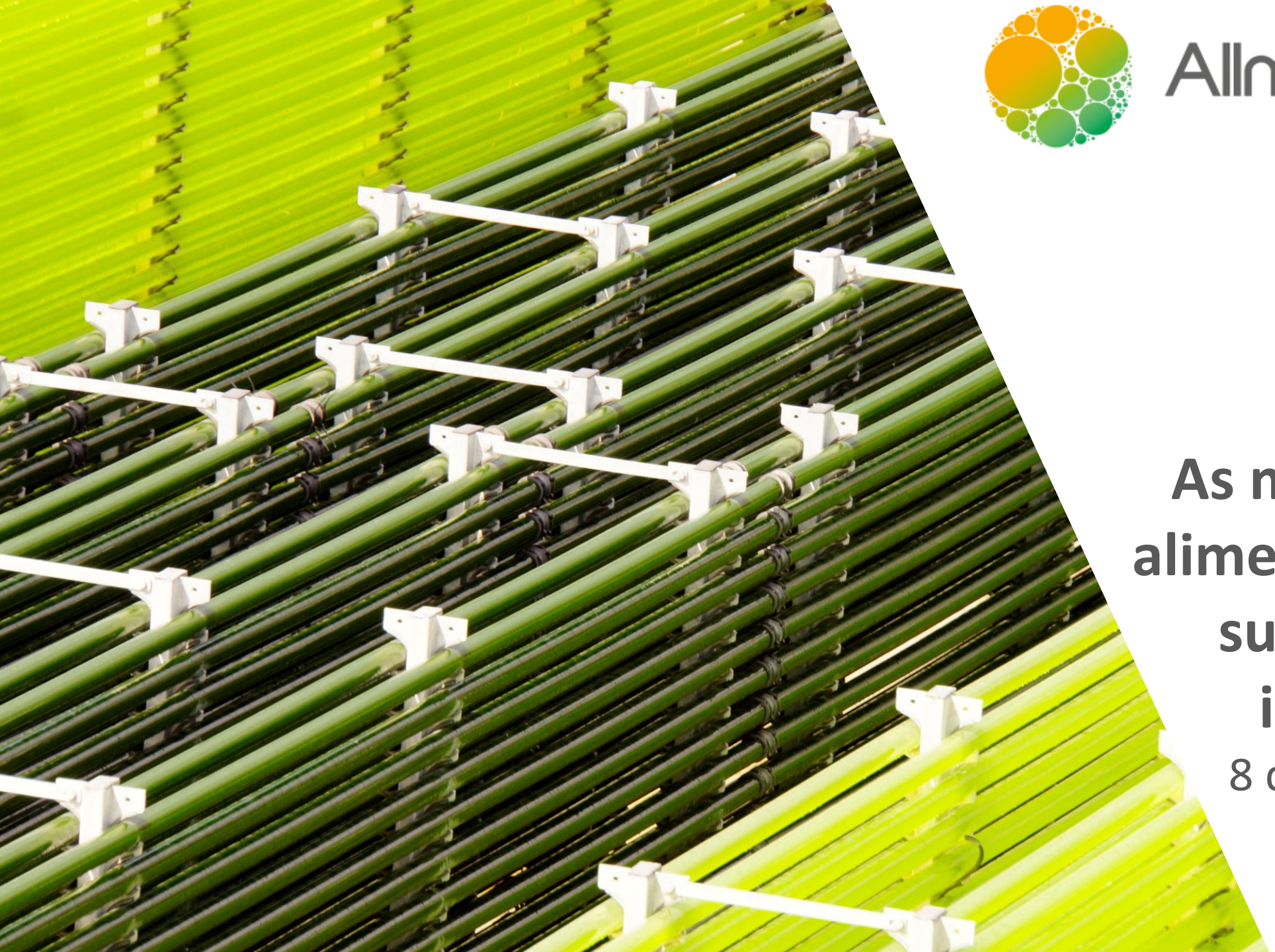

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CICLO DE CONFERÊNCIAS
Produção Pecuária Sustentável
Eficiência Alimentar

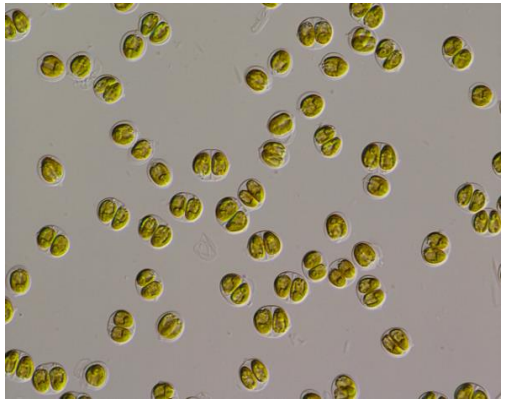
08 de Junho | 15h00
CNEMA - Sala Ribatejo

As microalgas na alimentação animal sustentável e inovadora

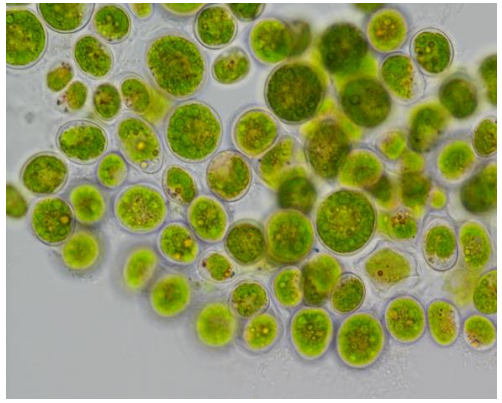
8 de junho 2022

Microalgas – diversidade morfológica

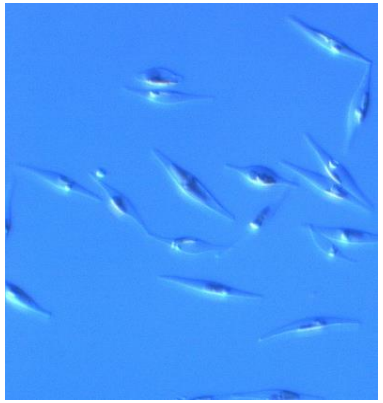
Tetraselmis sp.



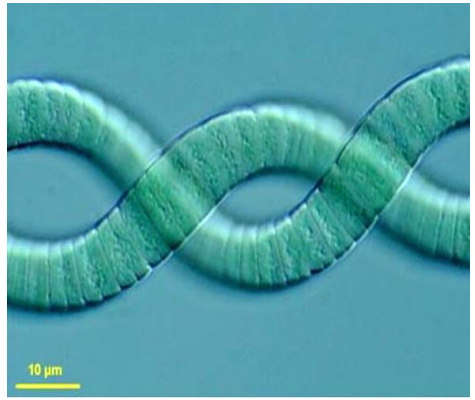
Haematococcus sp.

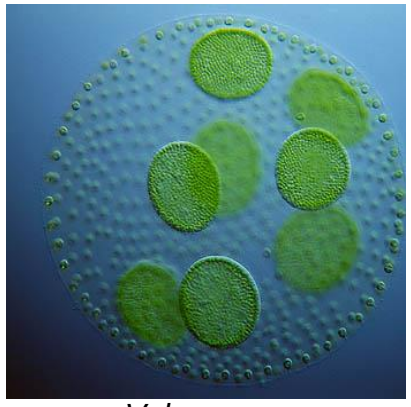


Phaeodactylum sp.



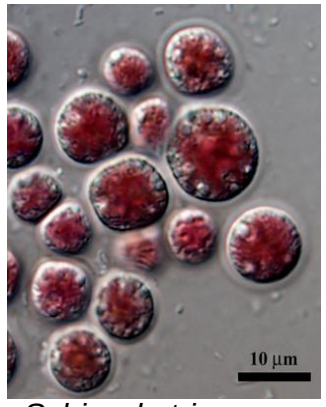
Arthrospira platensis



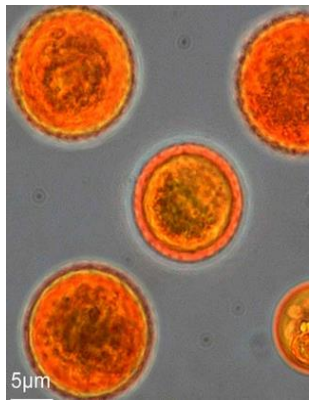


Volvox sp.

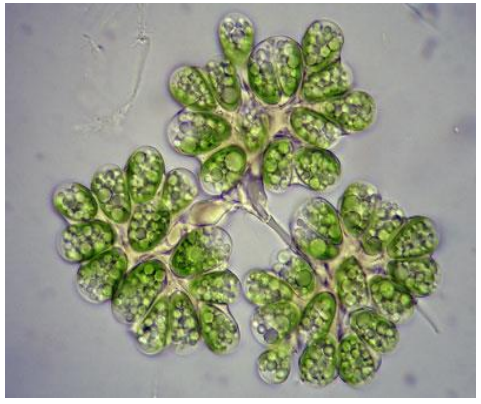
Nannochloropsis sp.



Schizochytrium sp.



Dunaliella sp.



Botryococcus braunii

- Grupo grande e muito diverso
- Organismos muito simples
- Tipicamente aquaticos
- Tipicamente fotoautotróficos
- Uni- e pluricelulares
- Taxonomia muito diversa

Microalgas – Aplicações

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Biogas

Bioethanol

Biodiesel

Biobutanol

Biofuel

Bioplastics

Feedstock

Cosmetics

Nutraceuticals
Pharmaceuticals
Vitamins

Food

Animal feed

Fertilizer/nutrients

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2007 CO2 fixation project

2008 Construction of the Pilot production plant

2010 Construction of the Industrial plant

2013 Industrial production

2014 Certification
APCER
ISO9001
ISO22000

2015 Allmicroalgae Natural Products

2017 Fermentation production

2018 Certification **PT-BIO-03**

2019 Certification **Halal**

2020 Certification **GMP+FSA Portugal Sou Eu**

2021 Raceways production

Start selling on **AMAZON**

Certification **GMP POTENCIAL KOSHER**

Product Innovation Award **Foods & Nutrition**

New Shareholder:

BIOTECHNOLOGIES GREENTECH

SECIL COMPANHIA GERAL DE CAL E CIMENTO, SA. **50%**

ALTINAT S.A.S. (GREENTECH GROUP) **50%**

ALLMICROALGAE - NATURAL PRODUCTS S.A.

THE PRODUCTION

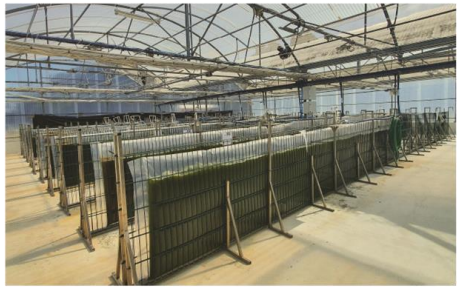
SINCE 2007

Allmicroalgae
natural products

Europe's Pioneer & largest Producer

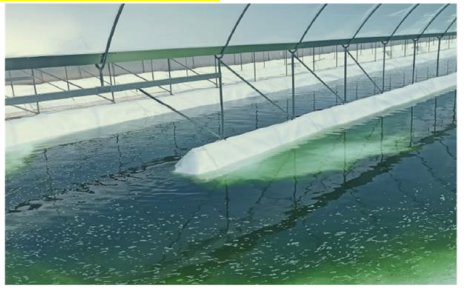
Premium Quality Microalgae

Food – Feed – Agro Applications



1.300 m³ de bioreactores e fermentadores

700 m³ raceways fechados



450 m³ raceways abertos

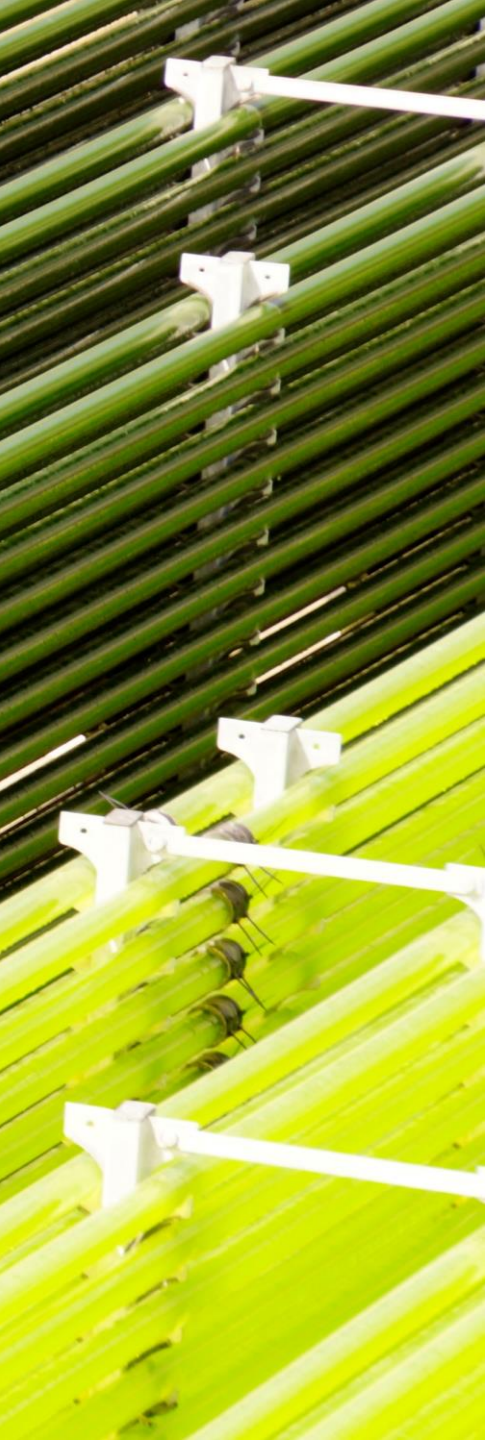
PT-BIO-03
EU Agriculture

PORTUGAL SOU EU

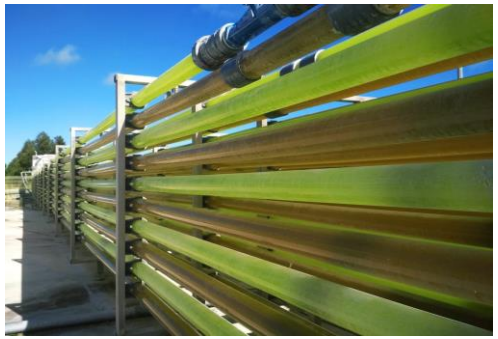
GMP+

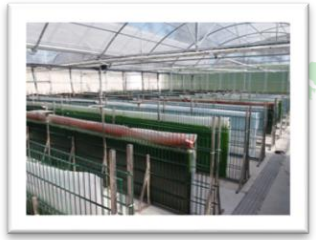
EMPRESA CERTIFICADA apcer ISO 9001 ISO 22000

CERTIFICAÇÃO apcer GMP/BPF



MICROALGAE PRODUCTION





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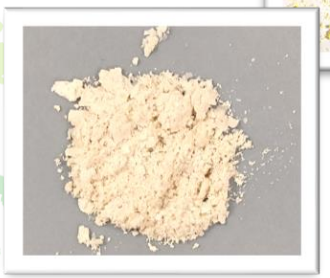
Organic Chlorella

Honey Chlorella



White Chlorella

PRODUCTION PROCESS

Projeto Estratégico Nacional

Do prado ao prato - ALGAVALOR (SP2)

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Análise laboratorial

Seleção Microalga (n=5)

Ensaios de Digestibilidade In Vivo

Seleção Microalga (n=2)

Fase Crescimento e Engorda

Qualidade da Carne

ALGAVALOR

Cofinanciado por:

COMPETE 2020

Lisb@20[20]

CRESC ALGARVE 2020

PORTUGAL 2020

UNIÃO EUROPEIA
Fundo Europeu de Desenvolvimento Regional

Highlights SP2

- A suplementação com *C. vulgaris* levou a uma diminuição geral dos níveis de citocinas pró-inflamatórias no soro dos animais do ensaio de digestibilidade.
- A inclusão de 1% *C. vulgaris* não teve efeito na aceitação e aparência geral, no cheiro/odor, no sabor/aroma, na textura, na suculência e no sabor residual.
- No ensaios realizados no produtor - 588 animais – verificou-se que, os animais cuja dieta incluía 1% de *C. vulgaris*, mostraram ter um maior peso vivo no abate.
- FUNCIONALIDADE COMPROVADA
- Importante termos o comprometimento de toda a cadeia de valor

“Microalgas como alimento para diferentes animais”

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applied sciences

MDPI

Article

Nannochloropsis oceanica as a Sustainable Source of n-3 Polyunsaturated Fatty Acids for Enrichment of Hen Eggs

Marta Neves [1], Ana Ferreira [1], Madalena Antunes [1], Joana Laranjeira Silva [2], Susana Mendes [1], Maria M. Gil [1] and Carla Tecelão [1,*]

1 MARE—Marine and Environmental Sciences Centre, School of Tourism and Maritime Technology, Polytechnic of Leiria, 2520-641 Peniche, Portugal; marta.neves@ipleiria.pt (M.N.); anaferreira.fm@gmail.com (A.F.); madalena.f.antunes@ipleiria.pt (M.A.); susana.mendes@ipleiria.pt (S.M.); maria.m.gil@ipleiria.pt (M.M.G.)

2 Allmicroalgae Natural Products S.A., Apartado 9, 2449-909 Pataias, Portugal; joana.g.silva@allmicroalgae.com

* Correspondence: carla.tecelao@ipleiria.pt

3% inclusion in hen diets improved orange yolk color and increased egg EPA and DHA content >2x fold, allowing classification as high in n-3 PUFA (CE nº1924/2006)[15–17].

Journal of Veterinary Internal Medicine
Open Access

J Vet Intern Med 2015;29:299–306

Omega-3 Fatty Acid Supplementation Provides an Additional Benefit to a Low-Dust Diet in the Management of Horses with Chronic Lower Airway Inflammatory Disease

N. Nogradi, L.L. Couetil, J. Messick, M.A. Stochelski, and J.R. Burgess

Background: Omega-3 polyunsaturated fatty acid (PUFA) may benefit humans and animals with chronic inflammatory diseases.

Hypothesis: Omega-3 PUFA supplementation improves clinical signs, lung function, and airway inflammation in horses with recurrent airway obstruction (RAO) and inflammatory airway disease (IAD).

Animals: Eight research horses and 35 client-owned horses.

Methods: A pilot study examined the dose of PUFA that can alter plasma PUFA composition. Then, a randomized, controlled clinical trial was performed in horses with RAO and IAD. Horses were fed a complete pelleted diet with no hay and randomly assigned to 1 of 3 daily treatments for 2 months: 30 or 60 g of the supplement or 30 g of placebo. Clinical signs, lung function, plasma PUFA composition, and bronchoalveolar lavage fluid (BALF) cytology were evaluated. Data were expressed as median (25–75th percentiles). $P < .05$ was considered significant.

Results: Polyunsaturated fatty acid supplementation resulted in increased plasma docosahexaenoic acid (DHA) that peaked at 4 weeks. Clinical improvement was noted in all horses involved in the clinical trial, but the group that received PUFA had greater improvement in clinical signs (cough score improved 60%), lung function (respiratory effort decreased 48%), and BALF (neutrophils decreased from 23 to 9%) when compared to placebo (cough score improved 33%, respiratory effort decreased 27%, BALF neutrophils increased from 11 to 17%; $P < .05$).

Conclusions and Clinical Importance: Feeding horses with RAO and IAD a PUFA supplement containing 1.5–3 g DHA for 2 months provides an additional benefit to low-dust diet.

Key words: Cough; Inflammatory airway disease; Poor performance; Recurrent airway obstruction.

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CHLORELLA VULGARIS – PROMOVE A QUALIDADE DO LEITE E A REDUÇÃO DO METANO

ELSEVIER

Algal Research

Volume 56, June 2021, 102284

Effects of *Chlorella vulgaris*, *Nannochloropsis oceanica* and *Tetraselmis* sp. supplementation levels on *in vitro* rumen fermentation

Denis J. Meehan [a, b], Ana R.J. Cabrita [a], Joana L. Silva [c], António J.M. Fonseca [a], Margarida R.G. Maia [a]

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