



Sertifikat

Nomor : B-925/Un.05/III.7/PP.00.9/8/2018

diberikan Kepada :

Mohamad Agus Salim

sebagai :

PEMATERI

dalam kegiatan Seminar Implementasi Wahyu Memandu Ilmu
dalam Fakultas Sains dan Teknologi UIN Sunan Gunung Djati Bandung
pada tanggal 31 Agustus 2018

Dekan
Fakultas Sains dan Teknologi.



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Mengintegrasikan *Microalgae* dan *Microgreens* ke dalam Tri Darma Perguruan Tinggi

Oleh:
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Fakultas Sains dan Teknologi
UIN Sunan Gunung Djati Bandung

Dipresentasikan pada, 31 Agustus 2018

Microalgae



Merupakan tumbuhan tingkat rendah

Kelompok Microalgae

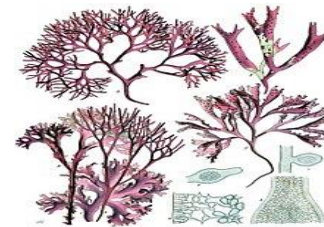
1. Chlorophyta



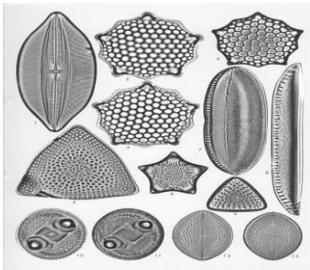
2. Cyanophyta



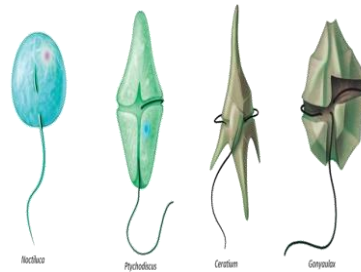
3. Rhodophyta



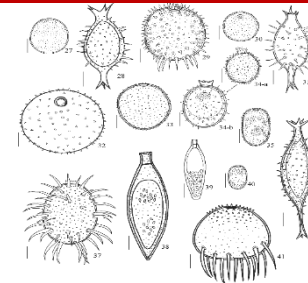
4. Bacillariophyta



5. Dinoflagellata



6. Euglenophyta

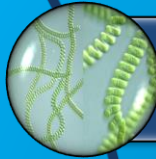


Spirulina platensis

1



180% more calcium than whole milk



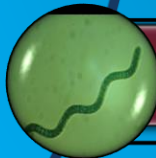
670% more protein than tofu



3100% more beta carotene than carrots



5100% more iron than spinach



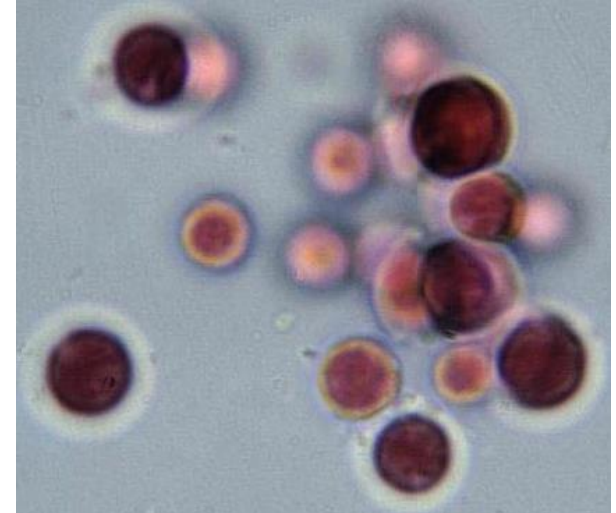
more antioxidant and anti-inflammatory activity 3 g of Spirulina \approx 5 servings of fruits and vegetables



Polysaccharides, Phycocyanin, Phenolic acids, tocopherols (vitamin E), PUFAs Diacylglycerols

Porphyridium cruentum

2



Photosynthetic Pigmen

- Chlorophyll-a
- Phycocyanin
- Phycoerythrin
- Allophycocyanin
- A and β -Carotene
- Xanthophylls

General Characteristics

- Mostly marine
- Multicellular ; colony
- Cell covering : Sulfated polysaccharides

Cell Covering

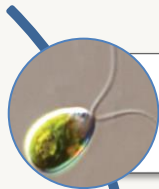
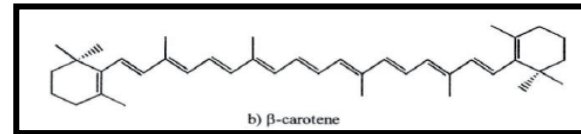
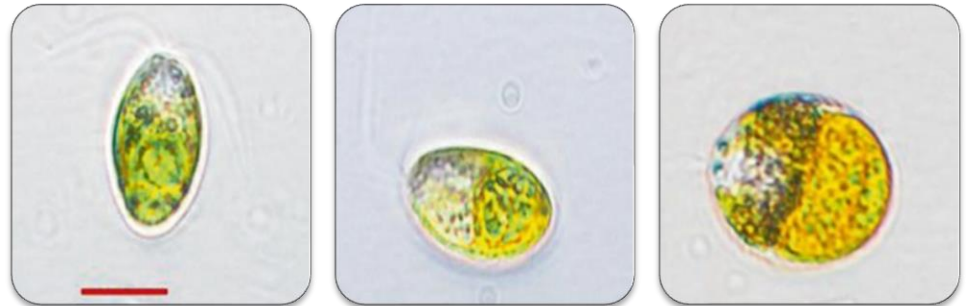
- sulfated polysaccharides,

Dunaliella salina

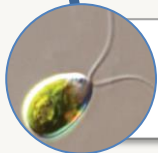
3



Changes in the cell morphology of *Dunaliella salina* (from left to right) in the course of high-light and salinity stress induced accumulation of β -carotene



trans-Betacarotene, *cis*-betacarotene, β -carotene, oleic acid, linolenic acid, palmitic acid, Diacylglycerols glycerol, lipids, enzymes and vitamins



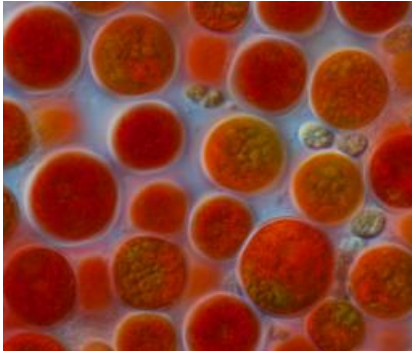
Antioxidant, antihypertensive, bronchodilatory, muscle relaxant, hepatoprotective, and antiedematous properties.



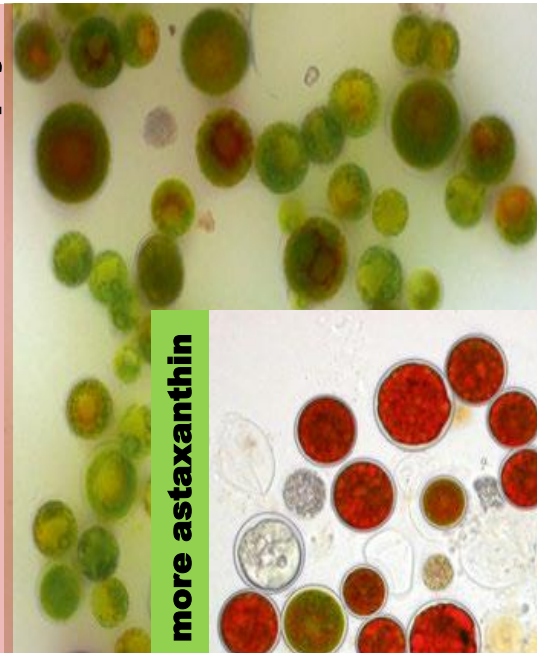
as vitamin A (retinol) precursor in food and animal feed

Haematococcus pluvialis

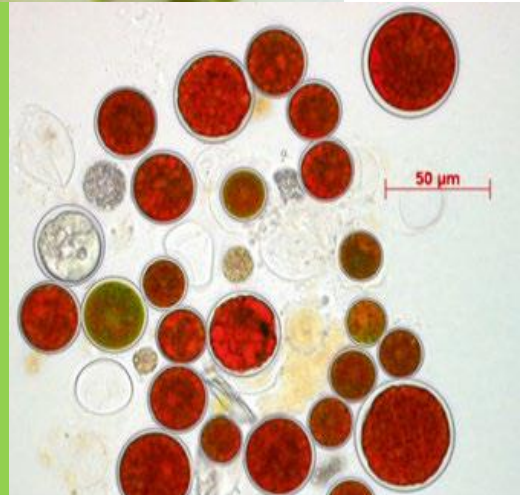
4



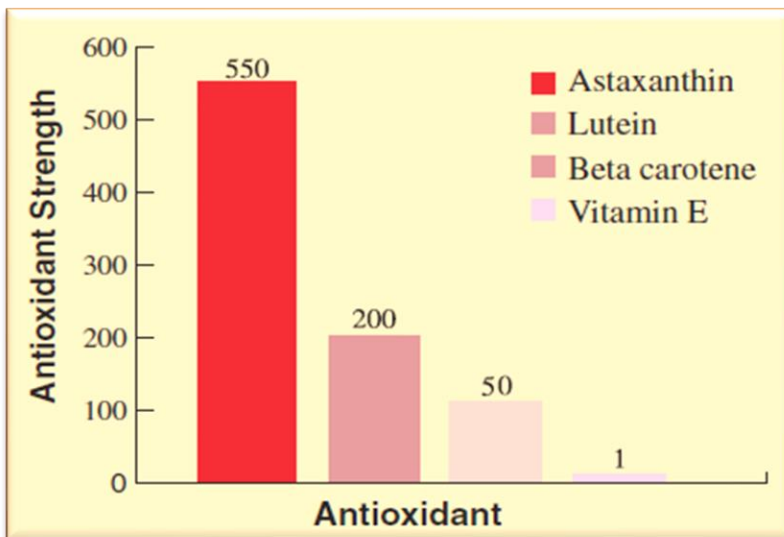
Palmelloid cells : more chlorophyll



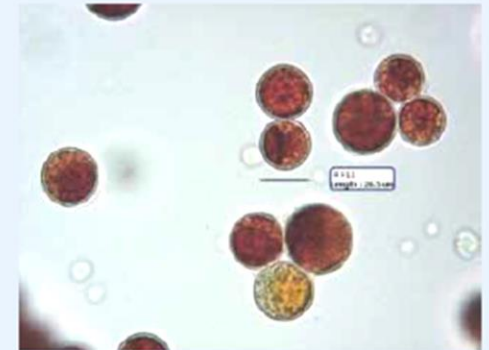
Red cysts : more astaxanthin



astaxanthin, zeaxanthin, canthaxanthin, lutein, β -carotene, oleic acid.



3 mg astaxanthin per 240 g serving



1% to 7% astaxanthin in microalgae

Microgreens



Tumbuhan dari kelompok sayuran atau herbal, yang dipanen pada 7-21 hari sejak penanaman

1. Coriander

2. Basil

4. Sunflower

3. Broccoli

5. Wheatgrass

Jenis Microgreens







Keunggulan:

- 1. Dipanen 7 – 21 hari
- 2. Tidak perlu lahan luas
- 3. Tidak memerlukan pupuk kimia

Kegunaan:

- 1. Garnish
- 2. Sandwich
- 3. Sup
- 4. Salad





Microalgae

Botani Cryptogamae

Biologi dan Budidaya Alga

Microgreens

Fisiologi Tumbuhan

Nutrisi Tumbuhan

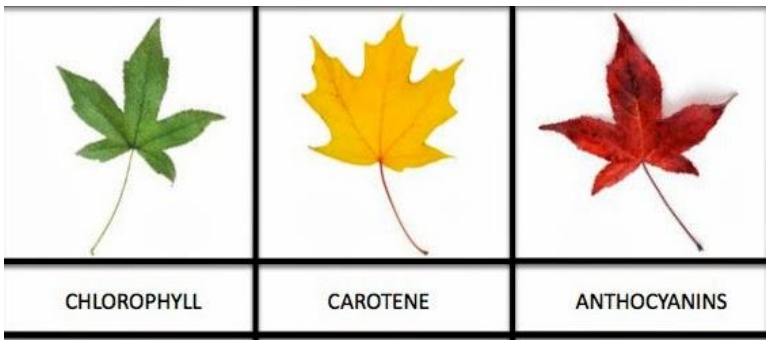
Penelitian Microalgae (Sejak 2008)



1. Biodisel



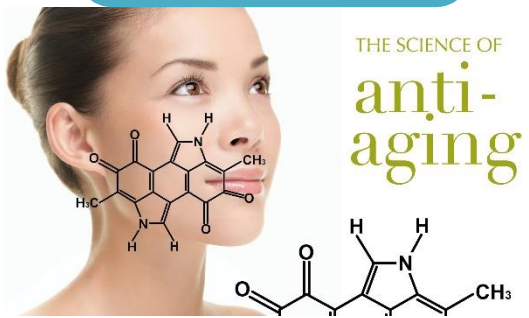
2. Pigmen



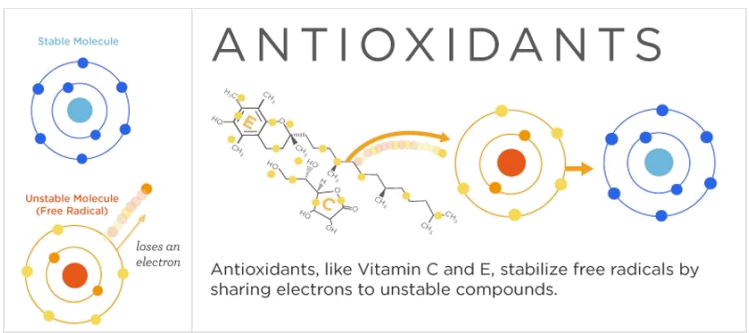
3. Anti Jamur



4. Antiaging



5. Antioxidants



6. Tabir Surya





Porphyridium cruentum



Spirulina platensis



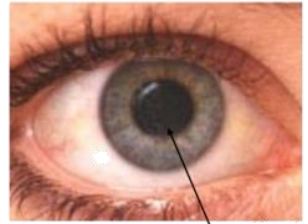
Penelitian Microalgae (Sejak 2008)



7. Diabetes



8. Katarak



Mata normal



katarak

9. Parkinson



11. Alzheimer



NORMAL



ALZHEIMER

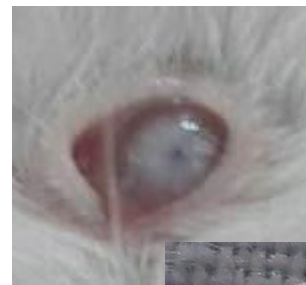
10. Anticancer



12. Drinking Water

YOUR DRINKING WATER IS SAFE

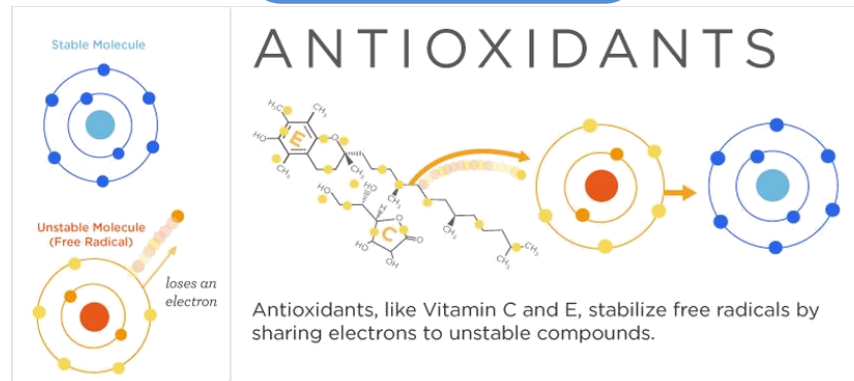




Kajian Microgreens (Sejak 2017)



1. Antioxidants



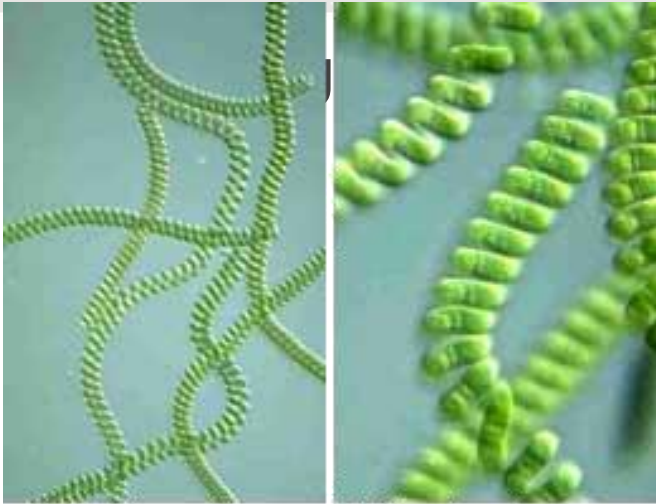
Antioksidan merupakan molekul yang mampu memperlambat atau mencegah proses oksidasi molekul lain.

2. Anticancer

Kanker adalah penyakit yang disebabkan oleh ketidakaturan perjalanan hormon. Biasanya gejala kanker dapat timbul secara perlahan. Penyebab kanker dapat dipicu oleh aturan pola hidup tak sehat.



Pengabdian Kepada Masyarakat

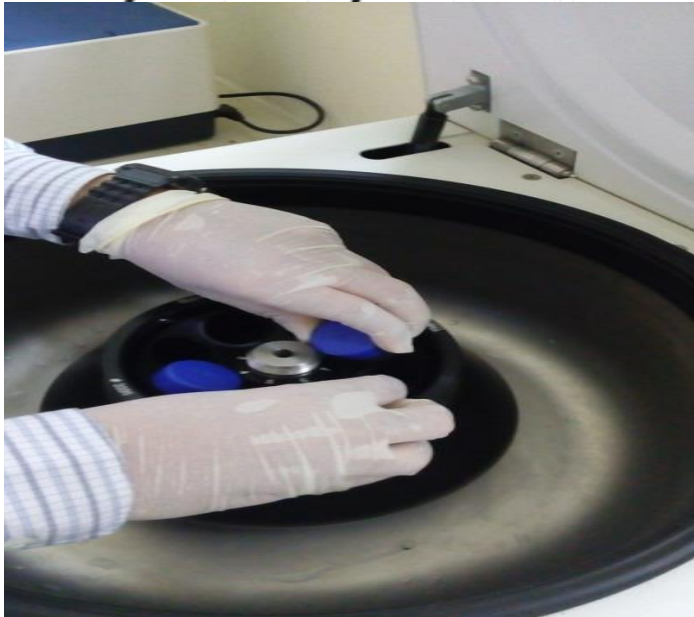


Spirulina platensis

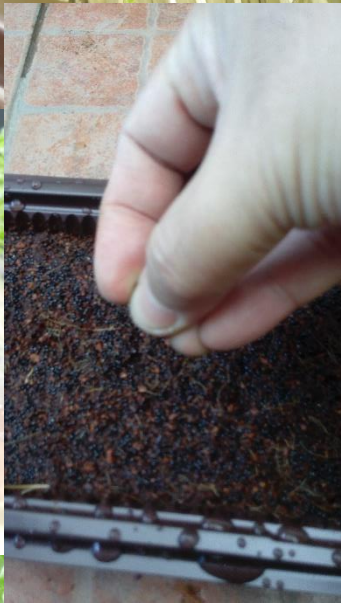
1. Berukuran besar
2. Mudah dipanen/di saring



1. Berukuran kecil
2. Sentrifugasi











**Wassalamu
alaikum**