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Article title.
Author. Place of publication: Publisher. Journal Title.
Date. Volume (Issue). Pages. (NAL Call Number).

Example:

1 NAL Call No.: DNAL 389.8.SCH6
Morrison, S.B. Denver, Colo.: American School Food Service
Association. School foodservice journal. Sept 1987. v. 41
(8). p.48-50. ill.

BOOK:

Citation # NAL Call Number
Title.
Author. Place of publication: Publisher, date. Information
on pagination, indices, or bibliographies.

Example:

1 NAL Call No.: DNAL RM218.K36 1987
Exploring careers in dietetics and nutrition.
Kane, June Kozak. New York: Rosen Pub. Group, 1987.
Includes index. xii, 133 p.: ill.; 22 cm. Bibliography:
p. 126.

AUDIOVISUAL:

Citation # NAL Call Number
Title.
Author. Place of publication: Publisher, date.
Supplemental information such as funding. Media format
(i.e., videocassette): Description (sound, color, size).

Example:

1 NAL Call No.: DNAL FNCTX364.A425 F&N AV
All aboard the nutri-train.
Mayo, Cynthia. Richmond, Va.: Richmond Public Schools,
1981. NET funded. Activity packet prepared by Cynthia
Mayo. 1 videocassette (30 min.): sd., col.; 3/4 in. +
activity packet.

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Seaweed Culture and Uses

SEARCH STRATEGY

Set Description

- S1 SEAWEED? OR NORI OR LAVER OR IRISH(1N)MOSS)/TI OR KELP?/DE
- S2 (LESSONIA OR ALARIA OR MACROCYSTIS OR ECKLONIA OR UDARIA OR
GIGARTINA OR PORPHYRA OR LAMINARIA OR CHONDRUS OR GRACILARIA
OR ENTEROMORPHA OR GELIDIUM OR RHODYMENIA OR ULVA OR
ASCOPHYLLUM OR EUCHEUMA OR PALMARIA OR MONOSTROMA)/TI
- S3 S1 OR S2

S4 (FARM? OR CULTURE OR CULTIVAT? OR MARICULTURE OR PRODUCT? OR PROCESSING OR INDUSTRY OR SALE? OR POTENTIAL OR RESOURCES OR USE? OR UTILIZATION OR EXTRACT?)/TI

S5 S3 AND S4

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Seaweed Culture and Uses

1 NAL Call. No.: 414.9 J274
Effects of light intensity, lighting period, intermittent lighting, and sugars and salts of organic acids supplemented to the culture media on the growth of cultured laver thalli (Algae). Imada, O.
Tokyo : The Society; June 1984.
Bulletin of the Japanese Society of Scientific Fisheries v. 50 (6): p. 931-936; June 1984. Includes 9 references.

Language: Japanese; English

2 NAL Call. No.: 414.9 J274
Flavor of dried laver "nori" at different water activities, with special reference to dimethyl sulfide production (Amanori, algal food product made from Porphyra yezoensis). Araki, S.; Ogawa, H.; Oohusa, T.; Kayama, M.; Kobayashi, A. Tokyo : The Society; Nov 1983.
Bulletin of the Japanese Society of Scientific Fisheries v. 49 (11): p. 1717-1720. ill; Nov 1983. Includes 11 references.

Language: Japanese; English

3 NAL Call. No.: 414.9 J274
Studies on the behavioral character of fishes around the artificial seaweed farm. Okamoto, M.; NSUGA
Tokyo : The Society; May 1983.
Bulletin of the Japanese Society of Scientific Fisheries v. 49 (5): p. 687-692. ill; May 1983. Includes references.

Language: Japanese; English

4 NAL Call. No.: 414.9 J274
Development of multi-direction photometer for use in aquatic system (in culture vessel of hydrophyte, mainly laver Porphyra sp.). Imada, O.; NSUGA
Tokyo : The Society; Jan 1983.
Bulletin of the Japanese Society of Scientific Fisheries v. 49 (1): p. 1-5. ill; Jan 1983. Includes references.

Language: Japanese; English

5

NAL Call. No.: 414.9 J274

Damages caused by the floating bacterial matrix to cultivated Monostroma (Algae, Shikoku Island, Japan).

Taniguchi, M.; NSUGA

Tokyo : The Society; Feb 1983.

Bulletin of the Japanese Society of Scientific Fisheries v. 49 (2): p. 273-281. ill., maps; Feb 1983. Includes references.

Language: Japanese; English

Descriptors: Japan

6

NAL Call. No.: 414.9 J274

Application of powdered materials to substratum of conchospores of Porphyra (Algae culture).

Imada, O.; NSUGA; Saito, Y.

Tokyo : The Society; Mar 1983.

Bulletin of the Japanese Society of Scientific Fisheries v. 49 (3): p. 399-407. ill; Mar 1983. Includes references.

Language: Japanese; English

7

NAL Call. No.: TP368.H3

Studies on the processing of Underia pinnatifida Laver and its physicochemical properties. I. Histochemical properties (Algal products). Kim, K.H.; HSKCA; Kim, C.S.

Seoul : Korean Society of Food Science & Technology; Dec 1982.

Han'guk sikh'un kwahak hoechi; Korean journal of food science & technology v. 14 (4): p. 336-341. ill; Dec 1982. Includes references.

Language: Korean; English

8

NAL Call. No.: 414.9 J274

Studies on light sources used for culture of laver Porphyra (Algae). Imada, O.; NSUGA; Saito, Y.

Tokyo : The Society; Nov 1982.

Bulletin of the Japanese Society of Scientific Fisheries v. 48 (11): p. 1517-1524. ill; Nov 1982. 9 ref.

Language: Japanese; English

9

NAL Call. No.: 414.9 J274

Application of herbicides to the culture of laver Porphyra (Algae). Imada, O.; NSUGA; Abe, T.

Tokyo : The Society; Nov 1982.

Bulletin of the Japanese Society of Scientific Fisheries v. 48 (11): p. 1507-1516. ill; Nov 1982. 8 ref.

Language: Japanese; English

10

NAL Call. No.: 414.9 H682

Studies on the distribution of kelp in Japan. II. Historical changes in the patterns of kelp consumption (Seaweed products). Oishi, K.; HOSGA
Hakodate : The Faculty; Sept 1982.
Hokkaido Daigaku Suisangaku-bu kenkyu iho; Bulletin of the Faculty of Fisheries, Hokkaido University v. 33 (3): p. 188-199. maps; Sept 1982. 38 ref.

Language: Japanese; English

Descriptors: Japan

11 NAL Call. No.: 414.9 H682
Studies on the distribution of the kelp in Japan. I. Statistical analysis of the processed kelp and kelp-tsukudani consumption for eight years (Seaweed products). Oishi, K.; HOSGA; Kikuchi, M.; Kobayashi, R.; Sudo, A.
Hakodate : The Faculty; Sept 1982.
Hokkaido Daigaku Suisangaku-bu kenkyu iho; Bulletin of the Faculty of Fisheries, Hokkaido University v. 33 (3): p. 172-187. maps; Sept 1982. 6 ref.

Language: Japanese; English

Descriptors: Japan

12 NAL Call. No.: 41.9 T5762
Manufacture and utilization of carboxymethyl alginate. II. Effect of reaction medium on the carboxymethylation of sodium alginate (Brown seaweeds, kelps, products). Nishide, E.; NIPDA
Tokyo : Nihon Daigaku No Jui Gakkai; Mar 1982.
Nihon Daigaku No Juigakubu gakujutsu kenkyu hokoku; Bulletin of the College of Agriculture and Veterinary Medicine (39): p. 200-204. ill; Mar 1982. 1 ref.

Language: Japanese; English

13 NAL Call. No.: 41.9 T5762
Manufacture and utilization of carboxymethyl alginate. I. Manufacturing of carboxymethyl alginate from sodium alginate (Brown seaweeds, kelps). Nishide, E.; NIPDA
Tokyo : Nihon Daigaku No Jui Gakkai; Mar 1982.
Nihon Daigaku No Juigakubu gakujutsu kenkyu hokoku; Bulletin of the College of Agriculture and Veterinary Medicine (39): p. 195-199; Mar 1982. 5 ref.

Language: Japanese; English

14 NAL Call. No.: 49 Z65
Testing poultry mixed feeds containing seaweeds. I. Influence on broiler productivity indicators. Tomova, D.; Mandev, I.; Chotinski, D.; TSvetanov, I.; Duneva, E.

Sofiia, Bulgarska akademiia na naukite; 1980.
Zhivotnovudni nauki; Animal science v. 17 (5): p. 68-73; 1980. 7
ref.

Language: Bulgarian; English; Russian

15 NAL Call. No.: 414.9 H683
Effects of temperature on the growth and maturation of female
gametophytes of laminariaceous plants. I. On *Laminaria japonica*,
Laminaria ochotensis, *Laminaria diabolica*, *Laminaria religiosa*
and *Laminaria angustata* var. *longissima* (Algae cultivation in
Hokkaido).
Okada, Y.; Sanbonsuga, Y.
Kushiro, The Laboratory; Aug 1980.
Bulletin do the Hokkaido Regional Fisheries Research Laboratory
(45): p. 51-56. ill; Aug 1980. 8 ref.

Descriptors: Japan

16 NAL Call. No.: 414.9 H683
Seasonal variations of components of forced cultivated *Laminaria*
(*japonica*, Algae) during growth process.
Yokoyama, M.; Sanbonsuga, Y.; Torii, S.
Kushiro, The Laboratory; Aug 1980.
Bulletin do the Hokkaido Regional Fisheries Research Laboratory
(45): p. 43-50. ill; Aug 1980. 19 ref.

17 NAL Call. No.: 389.9 N57
Gel-filtration profile of the arsenic compounds in water extracts
of seaweeds (Brown Algae, *Haliotis gigantea*).
Adachi, S.; Kawai, H.; Hosogai, Y.
Tokyo, The Society; Feb 1980.
Shokuhin eiseigaku zasshi; Journal of the Food Hygienic Society
of Japan v. 21 (1): p. 13-17. ill; Feb 1980. 9 ref.

18 NAL Call. No.: 414.9 H683
On a seasonal variation in nitrate-N content of *Laminaria* (Algae)
during forced cultivation.
Yokoyama, M.; Sanbonsuga, Y.
Kushiro, The Laboratory; Sept 1979.
Bulletin do the Hokkaido Regional Fisheries Research Laboratory
(44): p. 67-72. ill., map; Sept 1979. 12 ref.

19 NAL Call. No.: 41.9 T5762
Extraction of alginic acid from a South African brown alga,
Ecklonia maxima. III. Effect of pretreatments of the algal fronds
on the yield of alginate production.
Nishide, E.; Furukawa, T.
Tokyo, Nihon Daigaku No Jui Gakkai; Mar 1980.
Nihon Daigaku No Juigaku-bu gakujutsu kenkyu hokoku; Bulletin of
the College of Agriculture and Veterinary Medicine (37): p.
289-294. ill; Mar 1980. 2 ref.

20 NAL Call. No.: 41.9 T5762
Extraction of alginic acid from a South African brown alga,
Ecklonia maxima. II. Effect of crushing degree of algal fronds on
the yield of alginic acid. Nishide, E.
Tokyo, Nihon Daigaku No Jui Gakkai; Mar 1980.
Nihon Daigaku No Juigaku-bu gakujutsu kenkyu hokoku; Bulletin of
the College of Agriculture and Veterinary Medicine (37): p.
284-288. ill; Mar 1980. 1 ref.

21 NAL Call. No.: 41.9 T5762
Extraction of alginic acid from a South African brown alga,
Ecklonia maxima. I. Effect of varying concentrations of sodium
carbonate on the yield of alginic acid.
Nishide, E.
Tokyo, Nihon Daigaku No Jui Gakkai; Mar 1980.
Nihon Daigaku No Juigaku-bu gakujutsu kenkyu hokoku; Bulletin of
the College of Agriculture and Veterinary Medicine (37): p.
279-283. ill; Mar 1980. 6 ref.

22 NAL Call. No.: QH431.I17
The use of haploid phases in the genetic study of *Laminaria*
japonica (Algae). Fang, T.H.; Tai, C.H.
Peking, K'o hsueh ch'u pan she; Mar 1980.
I ch'u'an hsueh pao; Acta genetica Sinica v. 7 (1): p. 19-25.
ill., plate; Mar 1980. 11 ref.

Language: CHINESE; ENGLISH

23 NAL Call. No.: 442.9 SH6
On the height of the cultivated net in monostroma cultivation
(Algae utilized for food)
Ohno, M.
Kochi, The Station; Dec 1977.
Reports.Japan. Marine Biological Station, Usa v. 24 (1/2): p.
45-51. ill., maps; Dec 1977. 10 ref.

24 NAL Call. No.: 450 R18
Possibilities of cultivating *Gracilaria verrucosa* (Huds.) Papenf.
in the Black Sea (Algae, growth)
Kalugina-Gumnik, A.A.
Leningrad, "Nauka"; 1978.
Rastitel'nye resursy v. 14 (2): p. 273-278. ill; 1978. 14 ref.

Language: RUSSIAN

Descriptors: USSR

25 NAL Call. No.: 49.9 H19
Studies on the feed value of seaweed silage for the exploitation
of feedstuff resources

Lee, M.H.
Suwon, Han'guk Ch'uksan Hakhoe; April 1977.
Han'guk Ch'uksan Hakhoe chi; Korean journal of animal
sciences. Han'guk Ch'uksan Hakhoe v. 19 (2): p. 91-94. ill; April
1977. 10 ref.

Language: KOREAN (USE FOR RELATED KOREAN LANGUAGES AND
DIALECTS); ENGLISH

Descriptors: Korea Republic

26 NAL Call. No.: 450 AN4
Accumulation of cadmium, zinc, copper and lead by marine
macrophyceae under culture conditions (*Ulva lactuca*, *Enteromorpha*
linza, *Gracilaria verrucosa*, Algae, heavy metal uptake,
pollution).
Haritonidis, S.; Jager, H.J.; Schwantes, H.O.
Gottingen, W. Ger. : Vereinigung fur Angewandte Botanik; Dec
1983. *Angewandte Botanik* v. 57 (5/6): p. 311-330. ill; Dec 1983.
Includes references.

Language: English; German

27 NAL Call. No.: 450 B6582
Agarose from *Gracilaria cylindrica* (Algae, extraction from
seaweed). Santos, G.A.; BOTNA; Doty, M.S.
Berlin, W. Ger. : W. de Gruyter; Jan 1983.
Botanica marina v. 26 (1): p. 31-34. ill; Jan 1983. 15 ref.

Language: English

28 NAL Call. No.: SH389.A5
Algal natural products in relation to the State of Hawaii's
seaweed populations.. Algal natural products
Anquilar-Santos, Gertrudes; Doty, Maxwell Stanford
Honolulu, Hawaii : University of Hawaii, 1986 printing; 1986. ii,
274 p. : ill. ; 29 cm. (Hawaii botanical sciences paper ; no.
42). January, 1986. Originally produced for the Aquaculture
Development Program of the Hawaii Department of Land and Natural
Resources. Includes bibliographical references (p. 225-274).

Language: English

Descriptors: Algae products; Hawaii; Marine algae; Hawaii

29 NAL Call. No.: TP360.E532
Anaerobic digestion and nutrient recycling of small benthic or
floating seaweeds (Production of fuel gas).
Ryther, J.H.; Hanisak, M.D.
Chicago, Ill., Institute of Gas Technology; Apr 1981.
Energy from biomass and wastes ; symposium papers (5): p.
383-412. ill; Apr 1981. Presented at a symposium held January
26-30, 1981 at Lake Buena Vista, Florida. Includes 23 ref.

Language: English

30 NAL Call. No.: SH1.A6
Animal waste (sheep and rabbit) as a nitrogen source for
Gracilaria tikvahiae and *Neoagardhiella baileyi* (Algae) in
culture.
Asare, S.O.
Amsterdam, Elsevier Scientific Publishing; Sept 1980.
Aquaculture v. 21 (1): p. 87-91; Sept 1980. 9 ref.

Language: ENGLISH

31 NAL Call. No.: 450 P5622
Anti-bacterial activity of extracts from the brown seaweed
Stoechospermum marginatum (Algae).
De Silva, S.S.M.; Gamage, S.K.T.; Kumar, N.S.; Balasubramaniam,
S. Oxford, Pergamon Press; 1982.
Phytochemistry v. 21 (4): p. 944-945. ill; 1982. Includes 5 ref.

Language: English

32 NAL Call. No.: 450 B6582
Antibacterial activity of Indian seaweed extracts.
Rao, P.S.; Parekh, K.S.
Berlin, W. de Gruyter; Nov 1981.
Botanica marina v. 24 (11): p. 577-582; Nov 1981. Includes 16
ref.

Language: English

33 NAL Call. No.: QK564.I52
The application of genetic improvement techniques to seaweed
cultivation. I. Strain selection in the carrageenophyte *Chondrus
crispus* (Algae). Cheney, D.; Mathieson, A.; Schubert, D.
International Seaweed Symposium, 1980, Goteborg, Sweden,. Berlin,
W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 559-567;
1980. 17 ref.

Language: English

34 NAL Call. No.: TP360.E544
Aquatic biomass production on sand using seawater spray (Marine
algae, *Ascophyllum*).
Moeller, H.W.; Griffin, G.; Lee, V.
Chicago : The Institute, c1982; 1982.
Energy from biomass and wastes VI : symposium, January 25-29,
1982, Lake Buena Vista, Florida / symposium chairman D.L. Klass ;
sponsored by the Institute of Gas Technology. p. 237-248; 1982.
Includes references.

Language: English

35 NAL Call. No.: 414.9 J274
Axenic tissue culture and callus formation of the marine brown
alga *Laminaria angustata* (Beach, Hokkaido, Japan).
Saga, N.; Sakai, Y.
Tokyo : The Society; Oct 1983.
Bulletin of the Japanese Society of Scientific Fisheries v. 49
(10): p. 1561-1563. ill; Oct 1983. Includes references.

Language: English

Descriptors: Japan; Littoral Zone

36 NAL Call. No.: TP360.B55
Biological investigations of marine farms (Giant kelp,
Macrocystis). Barcelona, M.; Gerard, V.; Kuwabara, J.; Lieberman,
S.; Manley, S.; North, W. Washington, D.C., U.S. Government
Printing Office, Springfield, Va., Available from National
Technical Information Service, 1979; 1979.
Conference proceedings : The National Biomass Program, June 5, 6,
and 7, 1979, Colorado School of Mines, Golden, Colo., Sponsored
by U.S. Department of Energy; Coordinated by Solar Energy
Research Institute. Biomass Energy Systems Conference (3rd annual
: 1979 : Golden, Colorado). p. 33-37. ill; 1979. 7 ref.

37 NAL Call. No.: SF1.S68
Biological role of marine green algae *Ulva* in raising
productivity and meat quality of chicks.
Fisinin, V.I.; Tolokonnikov, S.Yu; Kalugina-Gutink, A.A.;
Evstigneeva, I.K. New York, N.Y. : Allerton Press; 1989.
Soviet agricultural biology : Part 2 : Animal biology (3): p.
75-80; 1989. Translated from: *Sel'skokhozyaistvennaya Biologiya*,
(4), 1989, p. 61-64. Includes references.

Language: English; Russian

Descriptors: Chicks; Fowl feeding; Algae meal; Supplementary
feeds; Meat production; Meat quality; Chicken meat; Meat
composition; Amino acids; Fatty acids; Nutritive value

38 NAL Call. No.: TP360.E547
Biomass from offshore sea areas (*Alaria esculenta*, *Laminaria*
saccharina, *Saccorhiza polyschides*, kelp culture on ropes).
Dordrecht, Holland : Boston : D. Reidel Pub. Co., c1981; 1981.
Energy from biomass : proceedings of the EC contractors' meeting
held in Copenhagen, 23-24 June 1981 / edited by P. Chartier and
W. Palz. p. 85-89; 1981. 4 ref.

Language: English

Descriptors: Marine Areas

39

NAL Call. No.: 442.8 AU73

Biomass method for measuring productivity of *Ecklonia radiata*, with the potential for adaptation to other large brown algae. Mann, E.H.; Kirkman, H. East Melbourne, Commonwealth Scientific and Industrial Research Organization; 1981. Australian journal of marine and freshwater research v. 32 (2): p. 297-304. ill; 1981. 6 ref.

40

NAL Call. No.: TP360.B55

Biomass production by marine and freshwater plants (Red seaweed *Gracilaria tikvahiae*, *Lemna minor*, *Eichhornia crassipes*, and *Hydrilla verticillata*). Ryther, J.H.; Williams, L.D.; Hanisak, M.D.; Stenberg, R.W.; DeBusk, T.A. Washington, D.C., U.S. Government Printing Office, Springfield, Va., Available from National Technical Information Service, 1979; 1979. Conference proceedings : The National Biomass Program, June 5, 6, and 7, 1979, Colorado School of Mines, Golden, Colo., Sponsored by U.S. Department of Energy; Coordinated by Solar Energy Research Institute. Biomass Energy Systems Conference (3rd annual : 1979 : Golden, Colorado). p. 13-23. ill; 1979. 17 ref.

Descriptors: Marine Areas; Lakes and Ponds

41

NAL Call. No.: QK564.I52

Breakthrough in the commercial culture of *Euचेuma spinosum* (Algae) in the northern Bohol, Philippines. Lim, J.R.; Porse, H. International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin, W. de Gruyter; 1980. Proceedings - International Seaweed Symposium (10th): p. 601-606. map; 1980.

Language: English

Descriptors: Philippines

42

NAL Call. No.: TP453.C65F67

Brown seaweed extracts (alginates) (Manufacture, structure, properties, food applications). King, A.H. Boca Raton : CRC Press; 1983. Food hydrocolloids v. 2: p. 115-188. ill; 1983. Literature review. Includes references.

Language: English

43

NAL Call. No.: S3.I7

Burning the kelp (Seaweed, production of soap, glass and bleaching materials). Donegan, O.M. Dun Laoire, Ireland, Agricultural Publications; June 1980. Irish farmers monthly v. 4 (6): p. 63. ill; June 1980.

Language: ENGLISH

44 NAL Call. No.: SH1.F2 no.281
Case studies of seven commercial seaweed resources.
Doty, Maxwell Stanford; Caddy, J. F.; Santelices G., Bernabe Rome
: Food and Agriculture Organization of the United Nations,; 1987.
ix, 311 p. : ill. ; 30 cm. (FAO fisheries technical paper ; 281).
Includes bibliographies.

Language: English

Descriptors: Marine algae culture; Case studies

45 NAL Call. No.: S900.R42
Changes in agar and other chemical constituents of the seaweed
Gracilaria tikvahiae when used as a substrate in methane
digesters.
Bird, K.T.; Hanisak, M.D.; Ryther, J.H.
Amsterdam, Elsevier Scientific Publishing Company; Nov 1981.
Resource recovery and conservation v. 6 (3/4): p. 321-327; Nov
1981. 13 ref.

46 NAL Call. No.: 396.8 J826
Chemical composition of some Egyptian marine algae. III.
Carbohydrate products (*Pterocladia capillaceae*, *Corallina*
mediterranea, *Sargassum linifolium*, *Cystoseira barbata*, *Ulva*
fasciata).
El Refai, A.H.; Naim, N.; Hamdy, A.A.; Sallam, L.A.; Karawya,
M.S. Cairo, National Information and Documentation Centre; 1980.
Egyptian journal of pharmaceutical sciences v. 21 (3/4): p.
357-362; 1980. 10 ref.

Language: English; Arapahoe

Descriptors: Egypt

47 NAL Call. No.: 450 B6582
Chemical quality and production of agars extracted from
Gracilaria tikvahiae (Algae) grown in different nitrogen
enrichment conditions. Bird, K.T.; Hanisak, M.D.; Ryther, J.
Berlin, W. de Gruyter; Aug 1981.
Botanica marina v. 24 (8): p. 441-444; Aug 1981. 20 ref.

48 NAL Call. No.: QK564.I52
Chilean seaweed resources: a quantitative review of potential and
present utilization (Cultivation).
Santelices, B.; Lopehandia, J.
International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin,
W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 725-730.
maps; 1980. 15 ref.

Language: English

Descriptors: Chile

49 NAL Call. No.: SH1.A6
Cloning the red alga *Gigartina exasperata* for culture on artificial substrates.
Sylvester, A.W.; AQCLA; Waaland, J.R.
Amsterdam : Elsevier Scientific Publishing; Mar 1983.
Aquaculture v. 31 (2/4): p. 305-317. ill; Mar 1983. Includes references.

Language: English

50 NAL Call. No.: QH541.5.S3M32
Community structure, succession, and production of seaweeds associated with mussel-rafts in the Ria de Arosa, N.W. Spain.
Lapointe, B.E.; Niell, F.X.; Fuentes, J.M.
Halstenbek, Ger., Inter-Research; Aug 15, 1981.
Marine ecology progress series v. 5 (3): p. 243-253. maps; Aug 15, 1981. Includes 2 p. ref.

Language: English

Descriptors: Spain

51 NAL Call. No.: 450 B651
Comparative reproductive patterns in culture of different *Gigartina* subgenus *Mastocarpus* and *Petrocelis* populations from northern Japan (Algae, hybridization, species occurrence).
Masuda, M.; West, J.A.; Ohno, Y.; Kurogi, M.
Tokyo : Botanical Society of Japan; Mar 1984.
The Botanical magazine v. 97 (1045): p. 107-125. ill., maps; Mar 1984. Includes references.

Language: English

Descriptors: Japan

52 NAL Call. No.: TD172.C54
The comparison of sewage effluent and sludge extract in cultivating *Ulva lactuca* Linn. (Algae, as potential source of protein for food and feed). Chan, K.Y.; Ting, Y.F.
Oxford; 1979.
Chemosphere v. 8 (4): p. 205-216. ill; 1979. 30 ref.

Language: ENGLISH

53 NAL Call. No.: 68.8 G65
Composition of two brown seaweeds and properties of alginates extracted from them (*Saragassum filipendula* and *Cystoseria*

ericoides, Algae, uses in food industry).
Askar, A.A.; Abd El-Baki, M.M.; El-Ebzary, M.M.; El-Dashlouty,
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Includes 24 ref.

Language: English

54 NAL Call. No.: SB117.4.J3S4
Cultivated "Nori" (Porphyra) (Algae, breeding, Japan).
Kito, H.
Tokyo, Association of Agricultural Relations in Asia; 1981. Seeds
and seedlings in Japan (special no.12): p. 274-276; 1981.

Language: English

Descriptors: Japan

55 NAL Call. No.: 450 B6582
The cultivation of *Chondrus crispus* (Algae). Effect of
temperature on growth and carrageenan production.
Simpson, F.J.; Shacklock, P.F.
Berlin, W. de Gruyter; July 1979.
Botanica marina v. 22 (5): p. 295-298. ill; July 1979. 15 ref.

Language: ENGLISH

56 NAL Call. No.: QK564.I52
Cultivation of gracilaria (Rhodophycophyta, Gigartinales) (Algae)
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W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 569-574.
map; 1980. 5 ref.

Language: English

Descriptors: Taiwan

57 NAL Call. No.: 450 B6582
The cultivation of *Palmaria palmata* (Algae). Effect of light
intensity and nitrate supply on growth and chemical composition.
Morgan, K.C.; Simpson, F.J.
Berlin, W. de Gruyter; May 1981.
Botanica marina v. 24 (5): p. 273-277. ill; May 1981. 22 ref.

58 NAL Call. No.: QK102.A65
Cultivation of *Palmaria* (Rhodymenia) *palmata*: effect of high
concentrations of nitrate and ammonium on growth and nitrogen
uptake.

Morgan, K.C.; Simpson, F.J.
Amsterdam, Elsevier Scientific; Sept 1981.
Aquatic botany v. 11 (2): p. 167-171. ill; Sept 1981. 15 ref.

59 NAL Call. No.: 450 B6582
The cultivation of (the edible marine red alga) *Palmaria palmata*.
Effect of light intensity and temperature on growth and chemical
composition. Morgan, K.C.; Simpson, F.J.
Berlin, W. de Gruyter; Oct 1981.
Botanica marina v. 24 (10): p. 547-552; Oct 1981. Bibliography
p. 551-552.

Language: English

60 NAL Call. No.: TD172.C54
Cultivation of *Ulva lactuca* (Algae) in sewage (Possible food
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Language: ENGLISH

61 NAL Call. No.: SH299.I5
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Mannar (Mandapam).
Chennubhotla, V.S.K.; Kaliaperumal, N.; Kalimuthu, S.
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(pub. 1981). Includes 3 ref.

Language: English

Descriptors: India

62 NAL Call. No.: 80 AC82
The cytokinins in a liquid seaweed extract: could they be the
active ingredients?.
Sanderson, K.J.; Jameson, P.E.
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1986 Jul. Acta horticulturae (179): p. 113-116; 1986 Jul. Paper
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Rimini, Italy. Includes references.

Language: English

Descriptors: Seaweed products; Extracts; Growth promoters;
Zeatin; Iaa; Isopentenyladenine; Bioassays; Gas chromatography

63 NAL Call. No.: TP248.27.A46S62 1987
The decay phase in the life history of *Gracilaria verrucosa*: the
consequences in intensive cultivation.

Destombe, C.; Godin, J.; Bodard, M.
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287-303; 1988. Proceedings of the 4th International Meeting,
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references.

Language: English

Descriptors: France; Seaweed culture; Greenhouse experimentation;
Seasonal growth; Maturity stage; Sex differences; Age
differences; Ammonium chloride

64 NAL Call. No.: 414.9 J274
Decoloration of alginic acid products by organic solvent (Brown
seaweed, *Sargassum tasaense*, *Eisenia bicyclis*).
Mizuno, H.; NSUGA; Iso, N.; Saito, T.; Nozawa, T.
Tokyo : The Society; Nov 1982.
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Language: English

65 NAL Call. No.: SB128.P5
Detection of cytokinins in a seaweed extract.
Tay, S.A.B.; MacLeod, J.K.; Palni, L.M.S.; Letham, D.S.
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Language: English

Descriptors: Seaweeds; Extracts; Cytokinins; Concentration;
Identification

66 NAL Call. No.: 515 SO8A
Development of a method for measuring the productivity of the
kelp *Ecklonia maxima* (Osbeck) Papenf. (Algae).
Mann, K.H.
Cape Town, The Society; 1979.
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Language: ENGLISH

67 NAL Call. No.: SH391.L38L47 1990
The development of genetic strains of *Laminaria saccharina* for
mariculture in Long Island waters final report to the New York
State Urban Development Corporation Aquaculture Innovation
Program.
Levine, Howard G.; Brinkhuis, Boudewijin H.
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Development Corporation, Aquaculture Innovation Program,; 1990.
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Program final report"--Cover. Includes bibliographical
references (p. 161-168).

Language: English

Descriptors: Laminaria saccharina; Marine algae industry

68 NAL Call. No.: QD415.A1M3
Diterpenoids (from algae, seaweeds and other marine products).
Fenical, W.
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Marine natural products v. 2: p. 173-245. ill; 1978.
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Language: ENGLISH

69 NAL Call. No.: QK564.J6
D-vitamins and their precursors as growth regulators in
axenically cultivated marine macroalgae (*Nemalion helminthoides*,
Polysiphonia urceolata, *Enteromorpha compressa*, *Fucus spiralis*).
Fries, L.
Fort Worth, Tex. : Phycological Society of America; Mar 1984.
Journal of phycology v. 20 (1): p. 62-66. ill; Mar 1984.
Includes references.

Language: English

70 NAL Call. No.: 475 P53
Edible seaweeds (Algae) of northern Luzon, Philippines: market
prices, local taste preference, seaweed recipes, and other local
uses.
Moreland, P.S.
Manila, National Science Development Board; Mar/June 1979. The
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1979. 14 ref.

Descriptors: Philippines

71 NAL Call. No.: 450 C16
The effect of a seaweed extract containing cytokinin on the
growth and yield of barley.
Taylor, J.S.; Harker, K.N.; Robertson, J.M.; Foster, K.R. Ottawa
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references.

Language: English

Descriptors: *Hordeum vulgare*; Seaweed products; Cytokinins; Seed
treatment; Foliar spraying; Comparisons; Kinetin; Crop yield;

Leaf area; Dry matter accumulation; Cultivars

72 NAL Call. No.: 442.8 L77
The effect of a seaweed extract on the alkaloid variation in a commercial plantation of a *Duboisia* hybrid.
Luanratana, O.; Griffin, W.J.
Cincinnati, Ohio, American Society of Pharmacognosy; May/June 1982. *Journal of natural products* v. 45 (3): p. 270-271; May/June 1982. 5 ref.

Language: English

73 NAL Call. No.: S16.F5J68
The effect of foliar application of seaweed extract on potato.
Kuisma, P.
Helsinki : The Scientific Agricultural Society of Finland; 1989. *Journal of agricultural science in Finland* : Maataloustieteellinen aikakauskirja v. 61 (5): p. 371-377; 1989. Includes references.

Language: English

Descriptors: Finland; *Solanum tuberosum*; Fertilizer analysis; Foliar application; Plant extracts; Seaweed products; Crop yield; Growth; Yield components

74 NAL Call. No.: SH1.A6
Effect of (*Gammarus oceanicus*, *Idotea baltica*, *Lacuna vincta*, crustacean) grazers on *Chondrus crispus* (Algae) in culture.
Shacklock, P.F.; Croft, G.B.
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75 NAL Call. No.: TP360.B57
The effect of nitrogen content on methane production by the marine algae *Gracilaria tikvahiae* and *Ulva* sp.
Habig, C.; DeBusk, T.A.; Ryther, J.H.
Barking : Applied Science Publishers; 1984. *Biomass* v. 4 (4): p. 239-251; 1984. Includes references.

Language: English

76 NAL Call. No.: 23 AU74
Effect of seaweed extract on growth and yield of onions.
McGeary, D.J.; Birkenhead, W.E.
Sydney : Academic Press; 1984. *Journal of the Australian Institute of Agricultural Science* v. 50 (1): p. 49-50; 1984. Includes references.

Language: English

Descriptors: Seaweed products; Crop yield; Growth rate; *Allium*

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77 NAL Call. No.: 450 B6582
The effect of seaweed extract sprays derived from *Ascophyllum nodosum* on lettuce and cauliflower crops (Fertilizer supplements made from algae, yield increases and quality).
Abetz, P.; Young, C.L.
Berlin, W. Ger. : W. de Gruyter; Oct 1983.
Botanica marina v. 26 (10): p. 487-492; Oct 1983. Includes references.

Language: English

78 NAL Call. No.: TRANSL 32169
Effect of two new foodstuffs (the alga *macrocystis pyrifera* and the yeast *saccharomyces cerevisiae*) on the production of HI antibodies to Newcastle disease virus = Ricerche sull'influenza di due nuovi energetici vegetali per animali (*Macrocystis pyrifera* e *Saccharomyces cerevisiae*) sulla produzione degli anticorpi inibenti l'emagglutinazione da virus della pseudopeste aviaria.
Biondi, E.
S.l. : s.n., 1984?; 1984.
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Language: English; Italian

79 NAL Call. No.: S605.5.B5
The effects of a calcareous seaweed product on earthworms in grassland soil. Blackshaw, R.P.
Berkhamsted : A B Academic Publishers; 1989.
Biological agriculture and horticulture : an international journal v. 6 (1): p. 27-33; 1989. Includes references.

Language: English

Descriptors: Northern ireland; Grasslands; Oligochaeta; Seaweed products; Calcareous soils; Lime (mineral); Soil biology; Population dynamics; Biomass determination

80 NAL Call. No.: 450 B6582
The effects of aqueous seaweed extract on sugar beet (Cytokinin activity). Blunden, G.; Wildgoose, P.B.; Nicholson, F.E.
Berlin, W. de Gruyter; Dec 1979.
Botanica marina v. 22 (8): p. 539-541. ill; Dec 1979. 7 ref.

Language: ENGLISH

81 NAL Call. No.: QK564.J6
Effects of external inorganic nitrogen concentration on

metabolism, growth and activities of key carbon and nitrogen assimilatory enzymes of *Laminaria saccharina* (Phaeophyceae) in culture (Algae).

Wheeler, W.N.; JPYLA; Weidner, M.

Fort Worth : Phycological Society of America; Mar 1983.

Journal of phycology v. 19 (1): p. 92-96; Mar 1983. Includes references.

Language: English

82

NAL Call. No.: 450 B6582

Effects of temperature, light and salinity on growth in culture of *Chondrus crispus*, *Furcellaria lumbricalis*, *Gracilaria tikvahiae* (Gigartinales, Rhodophyta), and *Fucus serratus* (Fucales, Phaeophyta) (Algae). Bird, N.L.; Chen, L.C.M.; McLachlan, J.

Berlin, W. de Gruyter; Dec 1979.

Botanica marina v. 22 (8): p. 521-527. ill; Dec 1979. 36 ref.

Language: ENGLISH

83

NAL Call. No.: 450 B6582

The effects on the growth of fluroid algae (*Ascophyllum nodosum*, *Fucus* sp.) of some synthetic materials used in the construction of culture apparatus. Schonbeck, M.W.; Norton, T.A.

Berlin, W. de Gruyter; July 1980.

Botanica marina v. 23 (7): p. 433-434; July 1980. 3 ref.

Language: ENGLISH

84

NAL Call. No.: TP360.E55

Energy from open ocean kelp farms.

United States, Congress, Senate, Committee on Commerce, Science, and Transportation, United States, Congress, Office of Technology Assessment. Washington, D.C. U.S. G.P.O.; 1980.

ix, 82 p. : ill. ; 24 cm. At head of title: 96th Congress, 1st session, Committee print. Printed for the use of the Committee on Commerce, Science, and Transportation. Includes bibliographical references.

Descriptors: Biomass energy; Marine algae culture; Kelp

85

NAL Call. No.: QK1.S69

Environmental tolerances in culture and agar content of *Gracilaria verrucosa* (Hudson) Papenfuss (Rhodophyta, Gigartinales) from Saldanha Bay. Engledow, H.R.; Bolton, J.J. Pretoria, S. Africa : Bureau for Scientific Publications; 1992 Aug. South African journal of botany : official journal of the South African Association of Botanists; Suid-Afrikaanse tydskrif vir plantkunde : amptelike tydskrif van die Suid-Afrikaanse Genootskap van Plantkundiges v. 58 (4): p. 263-267; 1992 Aug. Includes references.

Language: English

Descriptors: South Africa; Rhodophyta; Agar; Cell culture; Cell growth; Environmental factors; Productivity; Salinity; Salt tolerance; Temperature; Taxonomy

86 NAL Call. No.: SH390.5.U5M6
Establishing a seaweed industry in Hawaii an initial assessment.
Moss, James R.; Doty, Maxwell Stanford
Hawaii, Aquaculture Development Program
Honolulu, Hawaii : Aquaculture Development Program, Hawaii State
Dept. of Land and Natural Resources,; 1987.
x, 73 p. : ill. ; 28 cm. January 1987.

Language: English

Descriptors: Marine algae culture; Hawaii

87 NAL Call. No.: 450 B6582
Estimation of annual production by the intertidal brown alga
Ascophyllum nodosum (L.) Le Jolis.
Cousens, R.
Berlin, W. Ger. : W. de Gruyter; May 1984.
Botanica marina v. 27 (5): p. 217-227. ill., maps; May 1984.
Includes references.

Language: English

88 NAL Call. No.: 442.8 AR26
Evaluation of kappa carrageenan (extracted from seaweed) as a
substitute for agar in microbiological media.
Abbott, I.A.; Chapman, F.A.
Berlin, Springer; Feb 1981.
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12 ref.

89 NAL Call. No.: 450 B6582
Experimental ecology of *Gigartina stellata* (Rhodophyta) at
Roscoff, France, using an in situ culture method (Algae,
transplantation from laboratory to field conditions at the
coast).
Dion, P.; BOTNA; Delepine, R.
Berlin, W. Ger. : W. de Gruyter; May 1983.
Botanica marina v. 26 (5): p. 201-211. ill; May 1983. Includes
references.

Language: English

Descriptors: France; Littoral Zone

90 NAL Call. No.: TP360.E547
Exploitation of lagoon macroalgae for biogas production

(*Gracillaria confervoides*, *Ulva rigida*, Italy).
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Energy from biomass : proceedings of the EC contractors' meeting
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W. Palz. p. 76-80; 1981.

Language: English

Descriptors: Italy; Marine Areas

91 NAL Call. No.: 410.9 AC1
Extract of a sea lettuce ulva reduces oxygen consumption of
abalone (*Haliotis diversicolor* supertext a Lischke) (Feeding
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Jan, R.Q.; Shao, K.T.; Chang, K.H.
Taipei, The Institute; Jan 1981.
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p. 83-85. ill; Jan 1981. Includes 1 ref.

Language: English; Chinese

92 NAL Call. No.: QK564.I52
Extracts from some red and brown seaweeds of the Philippines
(Agar, carrageenan, alginate).
Laserna, E.C.; Veroy, R.L.; Luistro, A.H.; Cajipe G.J.B.
International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin,
W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 443-448;
1980. 17 ref.

Language: English

Descriptors: Philippines; Marine Areas

93 NAL Call. No.: QK570.2.S96
Farming *Macrocystis* at coastal and oceanic sites (Algae). North,
W.; Gerard, V.; Kuwabara, J.
Berlin ; New York : W. de Gruyter, 1982; 1982.
Synthetic and degradative processes in marine macrophytes :
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Bamfield, Vancouver Island, British Columbia, May 16-18, 1980 /
editor, L.M. Srivastava. p. 247-264. ill; 1982. 5 ref.

Language: English

94 NAL Call. No.: 450 B6582
Field and culture studies of *Porphyra rosengurtii* Coll et Cox
(Rhodophyta, Bangiales) (Algae) from North Carolina.
Kapraun, D.F.; Luster, D.G.
Berlin, W. de Gruyter; July 1980.
Botanica marina v. 23 (7): p. 449-457. ill; July 1980.
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Language: ENGLISH

Descriptors: North Carolina

95 NAL Call. No.: QK564.J6
Field and culture studies on *Gigartina agardhii* (Rhodophyta) (Algae). West, J.A.; Polanshek, A.R.
College Station, Phycological Society of America; Dec 1978.
Journal of phycology v. 14 (4): p. 416-426. ill; Dec 1978. 18 ref. National Science Foundation.

Language: ENGLISH

96 NAL Call. No.: TP360.I5
First experiments of production of macrophytes with waste water and methanization of biomass (*Lemna minor*, *Enteromorpha intestinalis*). Chassany-De Casabianca, M.L.; Sauze, F.
London, Allied Science Publishers; 1980 (pub.1981).
Proceedings ... Energy from biomass 1981): p. 672-677. ill; 1980 (pub.1981).

Language: French; English

97 NAL Call. No.: QH91.A1M35
A flow-through system for field measurements of production by marine macroalgae (*Ulva lactuca*).
Bottoom, D.L.
Berlin, Springer International; 1981.
Marine biology v. 64 (3): p. 251-257. ill; 1981. 21 ref.

Language: English

98 NAL Call. No.: SH390.7.A43
Food and food products from seaweeds.
Abbott, I.A.
Cambridge : Cambridge University Press; 1988.
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Language: English

Descriptors: Seaweeds; Algae culture; Byproducts; Extractives; Food prices

99 NAL Call. No.: TP360.E547
For a solar biotechnology based on microalgae (*Enteromorpha lingulata*, *Synechocystis*, *Spirulina maxima*, *Botryococcus braunii*, technology for use in food, chemical and biofuel industries).
Gudin, C.; Chaumont, D.
Dordrecht, Holland : Boston : D. Reidel Pub. Co., c1981; 1981.
Energy from biomass : proceedings of the EC contractors' meeting

held in Copenhagen, 23-24 June 1981 / edited by P. Chartier and W. Palz. p. 81-84; 1981. 8 ref.

Language: English

Descriptors: France

100 NAL Call. No.: SH1.A6
Genetic modification of *Gracilaria tikvahiae* (Rhodophyceae). The production and evaluation of polyploids.
Van der Meer, J.P.; AQCLA; Patwary, M.U.
Amsterdam : Elsevier Scientific Publishing; June 1983.
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Language: English

101 NAL Call. No.: 450 B6582
Genetics of *Gracilaria tikvahiae* (Rhodophyceae). IX. Some properties of agars extracted from morphological mutants (Algae).
Patwary, M.U.; BOTNA; Van Der Meer, J.P.
Berlin, W. Ger. : W. de Gruyter; June 1983.
Botanica marina v. 26 (6): p. 295-299; June 1983. Includes references.

Language: English

102 NAL Call. No.: TX341.F63
Getting seaweed to where it's needed (as a health food and a goitre remedy, mariculture).
Michanek, G.
Rome, Food and Agriculture Organization of the United Nations; Jan/Feb 1981. Ceres v. 14 (1): p. 41-44. ill; Jan/Feb 1981.

103 NAL Call. No.: QK564.J6
Growth and production of *Laminaria longicruris* (Phaeophyta) (Algae, kelp) populations exposed to different intensities of water movement (in Shag Bay, Nova Scotia).
Gerard, V.A.; Mann, K.H.
Lafayette, Phycological Society of America; Mar 1979.
Journal of phycology v. 15 (1): p. 33-41. ill., maps; Mar 1979.
Bibliography p. 40-41.

Language: ENGLISH

Descriptors: Canada

104 NAL Call. No.: QH91.A1M35
Growth and utilization of internal nitrogen reserves by the giant kelp *Macrocystis prifera* in a low-nitrogen environment.

Gerard, V.A.
Berlin, Springer International; 1982.
Marine biology v. 66 (1): p. 27-35. ill; 1982. Includes 24 ref.

Language: English

105 NAL Call. No.: QK564.I52
Growth response of *Chondrus crispus* (Rhodophyta, Gigartinales)
(Algae) to light and temperature in laboratory and outdoor tanks
culture. Braud, J.P.; Delepine, R.
International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin,
W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 553-558;
1980. 9 ref.

Language: English

106 NAL Call. No.: QK564.J6
Growth, yield and morphology of *Ascophyllum nodosum* (Phaeophyta)
under continuous and intermittent seawater spray culture regimens
(Algae). Rheault, R.B.; JPYLA; Ryther, J.H.
Fort Worth : Phycological Society of America; June 1983.
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references.

Language: English

107 NAL Call. No.: SH390.5.C6H35 1985
Hai tsao tsai p'ei hsueh [Seaweed culture].. Hai zao zai pei
xue, Ti 1 pan. Tseng, Ch'eng-k'uei
Shang-hai : Shang-hai k'o hsueh chi shu ch'u pan she : Hsin hua
shu tien Shang-hai fa hsing so fa hsing,; 1985.
2, 277 p. : ill. ; 26 cm. Cover title in pinyin: Hai zao zai pei
xue. Some botanical names given also in Latin. Bibliography: p.
[275]-277.

Language: Chinese; Latin

Descriptors: Marine algae culture; China; Algae culture; China

108 NAL Call. No.: GC1.035
Harvesting California's kelp forests (*Macrocystis pyrifera*,
includes food and non-food products made from kelp).
McPeak, R.H.; Glantz, D.A.
Woods Hole : Woods Hole Oceanographic Institution; Spring 1984.
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references.

Language: English

Descriptors: California

109 NAL Call. No.: 11 L236
Havet som matkjelde [Potential food sources (Seaweed)].
Godal, J.
Trondheim; Dec 16, 1978.
Landbrukstidende v. 84 (50): p. 1240-1242. ill; Dec 16, 1978.

Language: NORWEGIAN

110 NAL Call. No.: 382 M31C
The history of the seaweed industry. 3. The iodine industry
(Algae culture). Booth, E.
London; Jan 20, 1979.
Chemistry and industry Society of Chemical Industry (2): p. 52-55.
ill; Jan 20, 1979. 33 ref.

Language: ENGLISH

111 NAL Call. No.: QK102.A65
A hydrodynamically defined culture system for benthic seaweeds
(Porphyra and Macrocystis.).
Charters, A.C.; Neushul, M.
Amsterdam, Elsevier Scientific Publishing Co; Jan 1979.
Aquatic botany v. 6 (1): p. 67-78. ill; Jan 1979. 9 ref.

Language: ENGLISH

112 NAL Call. No.: RS160.J6
Hypoglycemic activity of several seaweed extracts.
Lamela, M.; Anca, J.; Villar, R.; Otero, J.; Calleja, J.M.
Limerick : Elsevier Scientific Publishers; 1989 Nov.
Journal of ethno-pharmacology v. 27 (1/2): p. 35-43; 1989 Nov.
Includes references.

Language: English

Descriptors: Seaweeds; Plant extracts; Hypoglycemic agents

113 NAL Call. No.: QK564.I52
The "ice-ice" problem in seaweed farming (Eucheuma, Algae,
disease of probable bacterial cause).
Uyenco, F.R.; Sanial, L.S.; Jacinto, G.S.
International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin,
W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 625-630;
1980. 8 ref.

Language: English

114 NAL Call. No.: QK745.J6
Identification of cytokinin glucosides in a seaweed extract. Tay,
S.A.B.; Palni, L.M.S.; MacLeod, J.K.
New York, N.Y. : Springer; 1987.

Journal of plant growth regulation v. 5 (3): p. 133-138. ill;
1987. Includes references.

Language: English

Descriptors: Seaweeds; Organic fertilizers; Extracts; Cytokinins;
Glucosides; Chemical analysis

115 NAL Call. No.: SH1.I5
Indonesian seaweed, its resources and culture.
Mubarak, H.
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9 ref.

Descriptors: Indonesia

116 NAL Call. No.: SB1.H6
Influence of plant growth stage and concentration of Cytex and
kinetin applications on tuber yields of two potato cultivars
(Plant hormones, aqueous seaweed extract, tuberization).
Lang, D.J.; Langille, A.R.
Alexandria, Va. : American Society for Horticultural Science; Aug
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references.

Language: English

117 NAL Call. No.: 470 C16C
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(Studied distribution of photosynthetic pigments).
Druehl, L.D.
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(2): p. 230-235. ill; Feb 1984. Includes references.

Language: English; French

118 NAL Call. No.: 475 M58
Introduction of *Eucheuma* to Fanning Atoll, Kiribati, for the
purpose of mariculture (Pacific Islands).
Russell, D.J.
Mangilao : The University; Dec 1982.
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35-44. maps; Dec 1982. Includes 21 references.

Language: English

Descriptors: Pacific Islands

119

NAL Call. No.: TP453.C65F67

Introduction (Seaweed extracts, chemical structure, cultivation, agar, carraggenan, furcellaran, alginates).

Glicksman, M.

Boca Raton : CRC Press; 1983.

Food hydrocolloids v. 2: p. 63-71. ill; 1983. Includes references.

Language: English

120

NAL Call. No.: 450 B6582

Investigations of distinct strains of *Chondrus crispus* Stackh. (Algae). II. Culture studies.

Chen, L.C.M.; Taylor, A.R.A.

Berlin, W. de Gruyter; July 1980.

Botanica marina v. 23 (7): p. 441-448. ill; July 1980. 7 ref.

Language: ENGLISH

121

NAL Call. No.: TP360.E547

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De Zarlo, S.; Tredici, M.; Balloni, W.; Materassi, R.

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Energy from biomass : proceedings of the EC contractors' meeting held in Copenhagen, 23-24 June 1981 / edited by P. Chartier and W. Palz. p. 70-75. ill; 1981. 2 ref.

Language: English

Descriptors: Italy

122

NAL Call. No.: SH391.C5T6

The Irish moss industry in the Maritimes : a synoptic review.

Tompkins, J. G.

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Descriptors: Marine algae; Maritime Provinces; Harvesting; Marine algae as food; *Chondrus crispus*

123

NAL Call. No.: QK564.I52

Kelp growth on an ocean farm in relation to fertilizing

(*Macrocystis*, Algae). Gerard, V.; North, W.

International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin, W. de Gruyter; 1980.

Proceedings - International Seaweed Symposium (10th): p. 581-586; 1980. 5 ref.

Language: English

124 NAL Call. No.: SH138.K9
Kul'tirovanie tikhookeanskikh bespozvonochnykh i vodoroslei
[Cultivation of Pacific Ocean invertebrates and Seaweeds].
Markovtsev, V. G.
Moskva : Agropromizdat,; 1987.
190, [1] p. : ill. ; 21 cm. Bibliography: p. 185-[191].

Language: Russian

Descriptors: Mariculture; Soviet Union; Aquatic invertebrates;
Soviet Union; Marine algae culture; Soviet Union

125 NAL Call. No.: 450 P697
Large-scale extraction of vanadium-containing peroxidases from
Ascophyllum nodosum, an alga rich in tannins and anionic
mucilages.
Vilter, H.
Stuttgart, W. Ger. : Georg Thieme Verlag; 1990 Dec.
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natural substances, July 17-22, 1990, Bonn, Germany. Includes
references.

Language: English

Descriptors: Algae; Plant extracts; Vanadium; Peroxidases

126 NAL Call. No.: SH1.C65
Launching a seaweed farm: a future source of energy.
Kantrowitz, B.M.
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1984.

Language: English

127 NAL Call. No.: 451 H68
The life history of Gigartina ochotensis (Ruprecht) Ruprecht
(Rhodophyta) (Algae) in culture.
Madua, M.; Kurogi, M.
Sapporo, The University; July 1981.
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Science, Hokkaido University. Series V: Botany v. 12 (3): p.
165-171. ill; July 1981. 11 ref.

Language: English

128 NAL Call. No.: QK1.B64
The life history of Laminaria brasiliensis (Phaeophyta) (Algae)
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1978. Boletim de botanica (6): p. 1-7. ill; 1978. 13 ref.

Language: ENGLISH

129 NAL Call. No.: 470 C16C
The life history of *Palmaria palmata* (red alga) in culture. A new
type for the Rhodophyta.
Van der Meer, J.P.; Todd, E.R.
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Canadian journal of botany; Journal canadien de botanique v. 58
(11): p. 1250-1256. ill., plate; June 1, 1980. 13 ref.

Language: ENGLISH; FRENCH

130 NAL Call. No.: 450 B6582
A life history study of *Gigartina johnstonii* (Rhodophyta) from
the Gulf of California (Algae, morphology, field and culture
observations). West, J.A.; Guiry, M.D.
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Language: English

Descriptors: California; Marine Areas

131 NAL Call. No.: QK564.I52
Manipulation of the Laminariales life-cycle and its consequences
for Kombu mariculture (Mariculture of *Laminaria groenlandica*,
Algae). Druehl, L.D.; Boal, R.
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W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 575-580;
1980. 6 ref.

Language: English

132 NAL Call. No.: SH391.R45H35
Mariculture of red seaweeds.
Hansen, Judith E.; Packard, Julie E.; Doyle, William T.
University of California (System), Sea Grant College Program. La
Jolla California Sea Grant College Program, Institute of Marine
Resources, University of California; 1981.
42 p. : ill. ; 28 cm. "Report. -CSGCP-002. Includes index.
Bibliography: p. 37-40.

Language: English

Descriptors: Rhodophyta; Marine algae culture

133 NAL Call. No.: SH1.A6
Mariculture of the red seaweed, *Hypnea musciformis*.

Guist, G.G. Jr; Dawes, C.J.; Castle, J.R.
Amsterdam, Elsevier Scientific Publishing; July 1982.
Aquaculture v. 28 (3/4): p. 375-384. ill; July 1982. 4 ref.

Language: English

134 NAL Call. No.: S544.3.C2C3
Marine algae (Types, seaweed utilization).
Waldvogel, J.; Blatteis, G.
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Leaflet - Division of Agricultural Sciences, University of
California. California. University, Berkeley. Cooperative
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Language: ENGLISH

135 NAL Call. No.: TP360.B49
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edited by Anthony San Pietro ; contributors, James A. Bassham ...
(et al.).. p. 31-58. ill; 1980. Literature review. Bibliography
p. 56-58.

136 NAL Call. No.: RS165.A45M37
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extracted from Gelidiella acerosa (red-purple seaweed) of Indian
shores. Gopal, B.V.
Berlin, New York, W. de Gruyter, 1979; 1979.
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Tore Levring, Yukio Tanaka. p. 675-680; 1979. 3 ref.

Descriptors: India

137 NAL Call. No.: TP360.E532
Methane fermentation of Hawaiian seaweeds (Fuel gas production).
Yang, P.Y.
Chicago, Ill., Institute of Gas Technology; Apr 1981.
Energy from biomass and wastes ; symposium papers (5): p.
307-327. ill; Apr 1981. Presented at a symposium held January
26-30, 1981 at Lake Buena Vista, Florida. Includes 9 ref.

Language: English

Descriptors: Hawaii

138 NAL Call. No.: S900.R42
Methane production from marine, green macro-algae (Biomass-
energy, Ulva, Cladophora, Chaetomorpha).
Hansson, G.; RRCOD
Amsterdam : Elsevier Scientific Publishing Company; Jan 1983.

Resources and conservation v. 8 (3): p. 185-194; Jan 1983. 20
ref.

Language: English

139 NAL Call. No.: S900.R42
Methane production from the anaerobic digestion of some marine
macrophytes (*Gracilaria tikvahiae*, *Ulva*, *Sargassum fluitans*,
biogas). Habig, C.; RRCOD; Ryther, J.H.
Amsterdam : Elsevier Scientific Publishing Company; Jan 1983.
Resources and conservation v. 8 (3): p. 271-279; Jan 1983. 14
ref.

Language: English

140 NAL Call. No.: QK564.J6
Morphogenesis of *Monostroma oxyspermum* (Kütz.) Doty
(Chlorophyceae) in axenic culture, especially in bialgal culture.
Tatewaki, M.; JPYLA; Provasoli, L.; Pintner, I.J.
Fort Worth : Phycological Society of America; Dec 1983.
Journal of phycology v. 19 (4): p. 409-416. ill; Dec 1983.
Includes references.

Language: English

141 NAL Call. No.: 450 AU72
Morphology and development in culture of *Enteromorpha linza* (L.)
J. Agardh (Ulvaceae, Chlorophyta), a common marine alga of
southern Australia. Phillips, J.A.; AJBTA; Clayton, M.N.
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Organization; 1983.
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Includes references.

Language: English

Descriptors: Australia

142 NAL Call. No.: TD930.A32
The Namibian seaweed industry: present and potential.
Critchley, A.T.; Rotmann, K.W.G.; Molloy, F.J.
Essex : Elsevier Applied Science Publishers; 1991.
Bioresource technology v. 38 (2/3): p. 137-143; 1991. Includes
references.

Language: English

Descriptors: Namibia; Seaweeds; Industry; Technology; Algae;
Species; Laminaria; Agar; Production; Algae culture

143 NAL Call. No.: TP368.F63
New (food) products from seaweed.

Attiyate, Y.
Radnor, Pa., Chilton Co; June 1979.
Food engineering international v. 4 (6): p. 23-24. ill; June 1979.

Language: ENGLISH

144 NAL Call. No.: SH1.A6
New methods for mass culture of *Macrocystis pyrifera* (Algae) sporophytes. Deviny, J.S.; Leventhal, J.
Amsterdam, Elsevier Scientific Publishing; July 1979.
Aquaculture v. 17 (3): p. 241-250. ill; July 1979. 22 ref.

Language: ENGLISH

145 NAL Call. No.: S900.R42
Nitrogen recycling and methane production using *Gracilaria tikvahiae*: a closed system approach (Macroalga).
Habig, C.; Andres, D.A.; Ryther, J.H.
Amsterdam, Netherlands : Elsevier Scientific Publishing Company; Mar 1984. Resources and conservation v. 10 (4): p. 303-313; Mar 1984. Includes references.

Language: English

146 NAL Call. No.: 41.8 IN22
A note on the utilization of seaweed-meal (*Sargassum*) in concentrate mixture of crossbred hoggets (Sheep feeding).
Ratan, R.; Patnayak, B.C.
New Delhi, Indian Council of Agricultural Research; Feb 1979.
Indian journal of animal sciences v. 49 (2): p. 140-142. ill; Feb 1979. 4 ref.

Language: ENGLISH

147 NAL Call. No.: QH91.A1M35
Optimal growth and maximal survival temperatures of Atlantic *Laminaria* species (Phaeophyta) in culture.
Bolton, J.J.; Luning, K.
Berlin, Springer International; 1982.
Marine biology v. 66 (1): p. 89-94. ill; 1982. Includes 29 ref.

Language: English

148 NAL Call. No.: TP360.E525 1982
Outdoor mass culture of algae in southern Italy utilizing seawater enriched with algal digested sludge (*Tetraselmis tetraathele*, *Oxillatoria raciborskii*, *Ulva lactuca*, part of a methane production biomass system). Balloni, W.; Materassi, R.; De Zarlo, S.; Pelosi, E.; Sili, C. Dordrecht, Holland : D. Reidel, c1982; 1982.
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Language: English

Descriptors: Italy

149 NAL Call. No.: QK564.P3
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Useful Algae, sponsored by the Pacific Area Sea Grant Advisory
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8, 1980 Pacific Grove, California. Abbott, Isabella A.; Foster,
Michael S.; Eklund, Louise F. Pacific Area Sea Grant Advisory
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228 p. : ill. ; 28 cm. Symposium funded under grant no. NAA
79AA-D-00138 to the University of Alaska from the NOAA.
Bibliography: p. 213-228.

Descriptors: Marine algae; Congresses; Marine algae culture;
Congresses

150 NAL Call. No.: TP248.27.A46S62 1987
The past, present, and future, of tissue culture and
biotechnology of seaweeds.
Polne-Fuller, M.
London : Elsevier Applied Science; 1988.
Algal biotechnology / edited by T. Stadler ... [et al.].. p.
17-31. ill; 1988. Proceedings of the 4th International Meeting,
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review. Includes references.

Language: English

Descriptors: Seaweeds; Biotechnology; Tissue culture; History;
Feasibility studies; Electron microscopy

151 NAL Call. No.: 451 B76
Penicillium waksmanii isolated from a red seaweed, Eucheuma
striatum (Disease of mariculture crop).
Dewey, F.M.; Donnelly, K.A.; Foster, D.
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Language: English

152 NAL Call. No.: 385 AG8B
Physicochemical studies on sulfated polysaccharides extracted
from seaweeds (*Ulva pertusa*, *Ulva conglobata* and *Entromorpha
prolifera*) at various temperatures.
Yamamoto, M.

Tokyo, Agricultural Chemical Society of Japan; Mar 1980.
Agricultural and biological chemistry v. 44 (3): p. 589-593. ill;
Mar 1980. 11 ref.

Language: ENGLISH

153 NAL Call. No.: TD1.E59
Physico-chemical treatment of meat-processing effluent with
sodium alginate and seaweed.
Russell, J.M.; Cooper, R.N.; Crocombe, B.I.
Kew : (s.n.).; July 1984.
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1984. Includes references.

Language: English

154 NAL Call. No.: SH390.7.A43
Porphyra as food: cultivation and economics.
Mumford, T.F. Jr; Miura, A.
Cambridge : Cambridge University Press; 1988.
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Waaland ; sponsored by the Phycological Society of America, Inc.
p. 87-117. ill; 1988. Literature review. Includes references.

Language: English

Descriptors: Rhodophyceae; Algae culture; Culture methods; Food
processing; Nutritional value

155 NAL Call. No.: QK710.T4
The potential for mariculture of seaweeds in New Zealand.
Christeller, J.T.; Furneaux, R.; Gordon, M.E.; Laing, W.A.;
Miller, I. Private Bag : The Division; Aug 1983.
Technical report - New Zealand Department of Scientific and
Industrial Research, Plant Physiology Division (18): 21 p.; Aug
1983. Includes references.

Language: English

Descriptors: New Zealand

156 NAL Call. No.: 450 N852
Preliminary observations and literature analysis of morphological
variability in some Japanese species of Gelidium (Gelidiaceae,
Rhodophyta) and an evaluation of criteria used in their
discrimination (Algae, description, taxonomy, anatomy).
Akatsuka, I.
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759-774. ill; 1982(pub.1983). Includes references.

Language: English

Descriptors: Japan

157 NAL Call. No.: SH307.M32F5 no.40
Preliminary results of the experimental culture of the red seaweed, *Gracilaria* sp. in Malaysia.
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Language: English

Descriptors: *Gracilaria*; Marine algae culture

158 NAL Call. No.: QK564.I52
Preliminary studies on mass culture of *Gracilaria* sp (Algae) using different nutrient media.
Yoneshique-Braga, Y.; Neves, M.H.C.B.
International Seaweed Symposium, 1980, Goteborg, Sweden,. Berlin, W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 643-648; 1980. 8 ref.

Language: English

159 NAL Call. No.: 105.1 G344
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160 NAL Call. No.: GB651.N3
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Cereceda, L.E.; Wormald, G.
Paris : Unesco; 1991.
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Language: English

Descriptors: Chile; Private ownership; Marine areas; Seaweed culture; Private sector; Production economics

161 NAL Call. No.: QK564.I52
Problems of converting linear growth increments of kelps to estimates of biomass production (*Laminaria longicruris*, *Laminaria digitata*, *Ecklonia maxima*, Algae).

Mann, K.H.; Mann, C.
International Seaweed Symposium, 1980, Goteborg, Sweden,. Berlin,
W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 699-704.
ill; 1980. 4 ref.

Language: English

162 NAL Call. No.: SH390.5.U5M6
Processing seaweeds for extractives.
Honolulu, Hawaii : Aquaculture Dev Program, Hawaii State Dept. of
Land and Nat Resources; 1987.
Establishing a seaweed industry in Hawaii : an initial assessment
/ by James R. Moss and Maxwell S. Doty. p. 40-45; 1987.

Language: English

Descriptors: Hawaii; Seaweeds; Extractives; Extraction; Site
requirements; Geothermal energy; Water supplies; Profitability

163 NAL Call. No.: 450 B6582
Production and properties of native agars from *Gracilaria*
tikvahiae and other red algae.
Cote, G.L.; Hanisak, M.D.
Berlin, W. Ger. : W. de Gruyter; 1986 Jul.
Botanica marina v. 29 (4): p. 359-366; 1986 Jul. Includes
references.

Language: English

Descriptors: Rhodophyta; Aquatic plants; Plant products; Agar;
Physicochemical properties; Chemical composition; Aquaculture;
Culture media

164 NAL Call. No.: SH390.5.U5M6
Production and sales of edible seaweeds of the Pacific.
Honolulu, Hawaii : Aquaculture Dev Program, Hawaii State Dept. of
Land and Nat Resources; 1987.
Establishing a seaweed industry in Hawaii : an initial assessment
/ by James R. Moss and Maxwell S. Doty. p. 10-17; 1987.

Language: English

Descriptors: Seaweeds; Edible species; Nutritional value; Seaweed
culture; Plant production; Sales; Powders

165 NAL Call. No.: SH390.5.U5M6
Production and sales volumes of seaweed extractives.
Honolulu, Hawaii : Aquaculture Dev Program, Hawaii State Dept. of
Land and Nat Resources; 1987.
Establishing a seaweed industry in Hawaii : an initial assessment
/ by James R. Moss and Maxwell S. Doty. p. 36-39; 1987.

Language: English

Descriptors: Seaweed products; Extractives; Plant production;
Sales; Colloids; Countries

166 NAL Call. No.: QK564.I52
Production ecology of Chilean Gelidiales (*Gelidium filicinum*,
Gelidium lingulatum, *Gelidium spinulosum*, Algae).
Santelices, B.; Oliger, P.; Montalve, S.
International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin,
W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 351-356;
1980. 15 ref.

Language: English

Descriptors: Chile

167 NAL Call. No.: QH541.5.S3M32
Productivity of kelp (*Laminaria* spp.) near the southern limit in
the northwestern Atlantic Ocean.
Brady-Campbell, M.M.; Campbell, D.B.; Harlin, M.M.
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Marine ecology progress series v. 18 (1/2): p. 79-88. maps; June
28, 1984. Includes references.

Language: English

Descriptors: Atlantic Ocean

168 NAL Call. No.: QK564.I52
Productivity of *Laminaria solidungula* J. Ag. (Algae) in the
Canadian high Arctic: a year-round study.
Chapman, A.R.O.; Lindley, J.E.
International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin,
W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 247-252;
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Language: English

Descriptors: Canada; Marine Areas

169 NAL Call. No.: TD172.E55
Productivity of seaweeds: the potential and the reality.
Mann, K.H.; Chapman, A.R.O.; Gagne, J.A.
New York, Plenum Press; 1980.
Environmental science research v. 19: p. 363-380. ill; 1980. 25
ref.

170 NAL Call. No.: SB1.H6
Promotion of seed germination in table beet by an aqueous seaweed

extract (*Beta vulgaris*, Laminariaceae, Fucaceae).
Wilczek, C.A.; Ng. T.J.
Alexandria, Va., American Society for Horticultural Science; Aug
1982. HortScience v. 17 (4): p. 629-630; Aug 1982. 19 ref.

Language: English

171 NAL Call. No.: QK565.K57
Promyshlovye morskoe vodorosli i travy dal'nevostochnykh morei
[Commercially used seaweed in the seas of the Soviet Far East].
Kizevetter, Igor' Vladimirovich; Sukhoveeva, M. V.; (Mariia
Vasil'evna); Shmel'kova, L. P.; (Liubov' Pavlovna)
Moskva Legkaia i pishchevaia promyshlennost'; 1981.
112, (1) p. : ill. ; 22 cm. Bibliography: p. 107-(113).

Language: Russian

Descriptors: Marine algae; Russian S.F.S.R; Marine algae as food;
Algae; Russian S.F.S.R; Anatomy; Algae; Economic aspects; Russian
S.F.S.R

172 NAL Call. No.: TD172.E55
Prospects for farming the open ocean (to raise, harvest, and
convert seaweeds, kelp, plus fish and other organisms).
Wilcox, H.A.
New York, Plenum Press; 1979.
Environmental science research v. 14: p. 235-259. ill; 1979. 48
ref.

Language: ENGLISH

173 NAL Call. No.: QK725.P54
Protoplast production in *Chondrus crispus* gametophytes
(Gigartinales, Rhodophyta).
Le Gall, Y.; Braud, J.P.; Kloareg, B.
Berlin, W. Ger. : Springer International; 1990.
Plant cell reports v. 8 (10): p. 582-585. ill; 1990. Includes
references.

Language: English

Descriptors: *Chondrus crispus*; Protoplasts; Life cycles;
Perennials; Staining; Haploidy; Enzyme activity; Cell walls;
Regeneration; Somatic hybridization

174 NAL Call. No.: QL121.A1U5
Recent problems of nori (*Porphyra* spp.) culture in Japan (Algae).
Kito, H.
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NOAA technical report NMFS Circular - United States, National
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Language: English

Descriptors: Japan

175 NAL Call. No.: TP453.C65F67
Red seaweed extracts (agar, carrageenans, furcellaran)
(Regulatory status, production, structure, properties, food
applications).
Glicksman, M.
Boca Raton : CRC Press; 1983.
Food hydrocolloids v. 2: p. 73-113. ill; 1983. Literature
review. Includes references.

Language: English

176 NAL Call. No.: QK564.I52
Reflections on the interrelationships between red seaweed source
chemistry and uses.
Stancioff, D.J.
International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin,
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Language: English

177 NAL Call. No.: SH390.5.I5V36 1982
Report on Euchema seaweed farming in Nusa Tenggara Timur
Indonesia.. Euchema seaweed farming in Nusa Tenggara Timur,
Indonesia
Vellin, J. L. C.
S.l. : Direktorat Tata Kota dan Tata Daerah, Direktorat Jenderal
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Indonesian. Proyek penyiapan program investasi pembangunan di
daerah NTB-NTT, regional planning and preparation of investment
oriented projects in NTB-NTT in cooperation with area development
project (PDP)-NTB. March 1, 1982. UNDP/IBRD.

Language: English; Indonesian

Descriptors: Marine algae culture

178 NAL Call. No.: 450 EC7
Review of chemical constituents of the red alga *Palmaria palmata*
(Dulse) (potential as a food source).
Morgan, K.C.; Wright, J.L.C.; Simpson, F.J.
Bronx, N.Y., New York Botanical Garden; Jan/Mar 1980.
Economic botany v. 34 (1): p. 27-50. ill; Jan/Mar 1980.
Bibliography p. 45-50.

Language: ENGLISH

179

NAL Call. No.: QK564.I52

Revolutionary impact of *Eucheuma* (Algae) cultivation in the South China Sea on the carrageenan industry.

Laite, P.; Ricohermoso, M.

International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin, W. de Gruyter; 1980.

Proceedings - International Seaweed Symposium (10th): p. 595-600; 1980.

Language: English

Descriptors: South China Sea

180

NAL Call. No.: 450 P5622

Ribulose biphosphate carboxylases from macroalgae: proteolysis during extraction and properties of the enzyme from *Porphyra umbilicalis*. Hilditch, C.M.; Jones, P.B.; Balding, P.; Smith, A.J.; Rogers, L.J. Oxford : Pergamon Press; 1991.

Phytochemistry v. 30 (3): p. 745-750. ill; 1991. Includes references.

Language: English

Descriptors: Uk; Rhodophyta; Ribulose-bisphosphate carboxylase; Purification; Proteolysis; Enzyme activity; Physicochemical properties

Abstract: The ribulose-1,5-bisphosphate carboxylase/oxygenase present in six macroalgae from the Rhodophyceae and Chlorophyceae was assayed, and the enzyme purified from *Porphyra umbilicalis*. In crude extracts from this red alga the carboxylase activity was typically 19 nmol CO₂ fixed min⁻¹ mg⁻¹ protein, and the oxygenase activity 8 nmol O₂ utilised min⁻¹ mg⁻¹ protein. In cell extracts the enzyme existed in two molecular forms which differed sufficiently in Mr to be separable on PAGE. On SDS-PAGE two forms of the large subunit of the enzyme were identified. One of these originated by protease action during cell disruption as inclusion of protease inhibitors in the extraction medium eliminated the heterogeneity. The enzyme could be purified by a two-step procedure based on FPLC; the highest specific activity obtained for the isolated enzyme was 100 nmol CO₂ fixed min⁻¹ mg⁻¹ protein. The ribulose bisphosphate carboxylase/oxygenase from *Porphyra umbilicalis* had a sedimentation coefficient of 19.2 X 10⁽⁻¹³⁾ sec and a diffusion coefficient of 3.2 X 10⁽⁻⁷⁾ cm² sec⁻¹ giving a Mr of 560 000 by the Svedberg equation; the Mr by sedimentation equilibrium was 525 000. Subunits of Mr 53 000 and 16 000 were demonstrated by SDS-PAGE suggesting the enzyme had a conventional L8S8 composition.

181

NAL Call. No.: QK570.2.S96

Seasonal patterns of carbon assimilation and utilization by kelps (*Laminaria longicruris*, *Laminaria solidungula*, *Laminaria palluda*, Algae, marine areas). Mann, K.H.; Chapman, A.R.O.; Gagne, J. Berlin ; New York : W. de Gruyter, 1982; 1982.

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Language: English

182 NAL Call. No.: QK564.J6
Seasonal productivity of two red algae in a central California
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Heine, J.N.; JPYLA
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Language: English

Descriptors: California

183 NAL Call. No.: QK564.I52
Seasonal variation of the chlorophyll contents of *Gracilaria*
(*verrucosa*, *Gracilaria confervoides*, Algae) cultivated in Taiwan.
Liu, C.Y.; Wang, C.Y.; Yang, S.S.
International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin,
W. de Gruyter; 1980.
Proceedings - International Seaweed Symposium (10th): p. 455-460;
1980. 11 ref.

Language: English

Descriptors: Taiwan

184 NAL Call. No.: Q180.C6K8
Seasonal variation of the quality of *Gracilaria* (*confervoides*,
seaweed) cultivated in Taiwan.
Wang, C.Y.; Yang, S.H.
Taipei, The Council; Jan 1, 1980.
Proceedings of the National Science Council. Kuo chia k'o hsueh
wei yuan hui v. 4 (1): p. 78-86. ill; Jan 1, 1980. 34 ref.

Language: ENGLISH; CHINESE

Descriptors: Taiwan

185 NAL Call. No.: QK570.2.S87
Seaweed a user's guide.
Surey-Gent, Sonia; Morris, Gordon
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160 p. : ill. ; 23 cm. Includes index. Bibliography: p. 156-157
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Language: English

Descriptors: Marine algae

186 NAL Call. No.: 450 B6582
Seaweed as source of energy. I. Effect of a specific bacterial strain on biogas production.
Rao, P.S.; Tarwade, S.J.; Sarma, K.S.R.
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Language: ENGLISH

187 NAL Call. No.: TX341.F662
Seaweed: chemical composition and potential food uses.
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New York, N.Y. : Marcel Dekker; 1989.
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Language: English

Descriptors: Seaweeds; Chemical constituents of plants;
Carbohydrates; Proteins; Nitrogenous compounds; Lipids; Vitamins;
Minerals; Volatile compounds; Pigments; Nutritive value

188 NAL Call. No.: QL121.A1U5
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Rockville, Md., The Service; Mar 1982.
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Language: English

189 NAL Call. No.: GC1.033
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Miura, A.
Chicago, University of Chicago Press; 1980.
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190 NAL Call. No.: SH390.5.J305
Seaweed cultivation in Minamikayabe, Hokkaido, Japan potential for similar mariculture in southeastern Alaska.
Olson, Wallace M.
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iv, 23 p. : ill. ; 28 cm. (Marine advisory bulletin ;). January 1987. Bibliography: p. 23.

Language: English

Descriptors: Marine algae culture; Mariculture

191 NAL Call. No.: aZ5071.N3
Seaweed culture and uses--January 1979-September 1990.
Young, A.T.
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Language: English

Descriptors: Seaweed culture; Bibliographies

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Fisheries : proceedings of the 19th session, Indo-Pacific Fishery
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Descriptors: Philippines

194 NAL Call. No.: 23 AU74
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The Journal of the Australian Institute of Agricultural Science
v. 46 (1): p. 23-29. ill; 1980. Literature review. 40 ref.

Language: ENGLISH

Descriptors: Australia

195 NAL Call. No.: S605.5.B5
Seaweed extracts in agriculture and horticulture: a review.
Verkleij, F.N.

Oxon : A B Academic Publishers; 1992.
Biological agriculture and horticulture : an international
journal v. 8 (4): p. 309-324; 1992. Includes references.

Language: English

Descriptors: Seaweeds; Plant extracts; Growth promoters; Plant
protection; Plant disease control; Pest management; Plant growth
regulators; Trace elements; Nutrient content; Chemical
composition; Seasonal variation; Harvesting; Nutrient
requirements; Roots; Growth; Nutrient uptake; Crop yield; Foliar
application; Application methods; Application date; Disease
resistance; Pest resistance; Crop quality; Reviews

196 NAL Call. No.: SH390.5.U5M6
Seaweed farming: requirements, costs, and political
considerations. Honolulu, Hawaii : Aquaculture Dev Program,
Hawaii State Dept. of Land and Nat Resources; 1987.
Establishing a seaweed industry in Hawaii : an initial assessment
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Language: English

Descriptors: Hawaii; Seaweeds; Laminaria; Seaweed culture;
Production potential; Production costs; Environmental factors;
Politics

197 NAL Call. No.: SH390.A15S4
Seaweed raft and farm design in the United States and China.
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Sciences Research Center, SUNY at Stony Brook, Long Island, N.Y.,
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Language: English

Descriptors: Marine algae culture; United States; Congresses;
Marine algae culture; China; Congresses; National Sea Grant
Program; New York Sea Grant Institute

198 NAL Call. No.: RS165.A45M37
Seaweed resources for pharmaceutical uses.
Michanek, G.
Berlin, New York, W. de Gruyter, 1979; 1979.
Marine algae in pharmaceutical science, editors, Heinz A. Hoppe,
Tore Levring, Yukio Tanaka. p. 200-235. map; 1979. Bibliography
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Seaweed resources in Europe uses and potential.
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Language: English

Descriptors: Marine algae; Marine algae culture

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Seaweed uses: the outlook for mariculture (Marine algae, agar,
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Gellenback, K.W.; ENDEA; Chapman, D.J.
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Language: English

201 NAL Call. No.: GC1.S4
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Descriptors: USA

202 NAL Call. No.: 451 C11
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Lawrence, Kan. : Cactus and Succulent Society of America; 1991
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Language: English

Descriptors: Succulent plants; Propagation; Stimulation

203 NAL Call. No.: T1.A6
Seaweeds: an underexploited resource in developing countries
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Edwards, P.
London, Intermediate Technology Publications Ltd; May 1979.
Appropriate technology v. 6 (1): p. 25-27. ill; May 1979. 7 ref.

Language: ENGLISH

Descriptors: Thailand

204 NAL Call. No.: QK567.C4 1980

Seaweeds and their uses., 3rd ed.
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Descriptors: Marine algae; Economic aspects

205 NAL Call. No.: TP360.E544
Significance of carbon dioxide and bicarbonate-carbon uptake in
marine biomass production (Red alga, *Gracilaria tikvahiae*).
Ryther, J.H.; DeBusk, T.A.
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Includes references.

Language: English

206 NAL Call. No.: 450 B6582
Some aspects of the culture of (red alga) *Palmaria palmata* in
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Berlin, W. de Gruyter; Dec 1980.
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Some aspects of the growth and yield of *Gracilaria tikvahiae*
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Language: ENGLISH

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Standing stock and production of *Ecklonia radiata* (C.Ag.) J.
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Amsterdam : Elsevier; Apr 10, 1984.
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Language: English

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Includes references.

Language: English

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Descriptors: Brazil

211 NAL Call. No.: TP368.J6
Study of the water extractable components of the red seaweed *Eucheuma spinosum* (Algae, carbohydrates, in Singapore waters).
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Language: ENGLISH

Descriptors: Singapore

212 NAL Call. No.: QK564.P58
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Chiang, Y.M.; Wang, J.C.
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Phycologia v. 19 (1): p. 20-24. ill; Mar 1980. 20 ref.

Language: ENGLISH

213 NAL Call. No.: 241.5 IM7
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Qasim, S.Z.
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Impact of science on society (3/4): p. 463-477; 1983.

Language: English

Descriptors: India; Oceans

214 NAL Call. No.: SH390.5.I5W56 1990
Teknologi pengolahan rumput laut [Processing seaweed].
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Language: Indonesian

Descriptors: Marine algae; Marine algae culture; Marine algae as food; Marine algae

215 NAL Call. No.: QK564.I52
Tip-cutting of fronds as a means of increasing production in Laminaria (Algae) aquaculture.
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International Seaweed Symposium, 1980, Goteborg, Sweden, . Berlin, W. de Gruyter; 1980.
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Language: English

216 NAL Call. No.: 506 SP12
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Language: Spanish

Descriptors: Seaweeds; Slow release fertilizers; Superphosphate; Matrices

217 NAL Call. No.: QK564.P58
Use of clearing and fluorescence techniques in anatomical studies of the sporophyte of Macrocystis (Phaeophyceae, Laminariales) (Algae). Barrales, H.L.; Peterson, R.L.; Grenville, D.J.; Gerrath, J.F. Oxford, Blackwell Scientific Publications; Dec 1981.
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Language: English

218 NAL Call. No.: 8 P832J
The use of seaweed (Algae) in animal diets (Chemical composition, poultry feeding, Puerto Rico).
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Language: English

Descriptors: Puerto Rico

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195 leaves in various foliations ; 28 cm. PB81-882110. "Sep 81.
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Language: English

Descriptors: Marine algae as food; Bibliography

220 NAL Call. No.: 500 M697
Use of seaweed extract in tomato production.
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Jackson, Miss. : The Academy; 1990.
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Language: English

Descriptors: Mississippi; Lycopersicon esculentum; Plant
extracts; Seaweeds; Soil amendmets; Foliar application; Crop
production; Crop quality; Crop yield; Tomatoes; Weight; Acidity;
Flavor; Food quality; Relative humidity; Solubility; Storage
quality

221 NAL Call. No.: RS165.A45M37
Use of the Laminaria tent (Algae) in obstetrical practice.
Feochari, K.
Berlin, New York, W. de Gruyter, 1979; 1979.
Marine algae in pharmaceutical science, editors, Heinz A. Hoppe,
Tore Levring, Yukio Tanaka. p. 663-673; 1979. 25 ref.

222 NAL Call. No.: 450 EC7
The uses of seaweed (Algae) as food in Hawaii.
Abbott, I.A.
Bronx, N.Y., New York Botanical Garden; Oct/Dec 1978 (pub. Dec
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(pub. Dec 1979). 3 ref.

Language: ENGLISH

Descriptors: Hawaii

223 NAL Call. No.: 450 P692

Utilization of inorganic carbon by *Ulva lactuca*.
Drechsler, Z.; Beer, S.
Rockville, Md. : American Society of Plant Physiologists; 1991
Dec. Plant physiology v. 97 (4): p. 1439-1444; 1991 Dec.
Includes references.

Language: English

Descriptors: Algae; Photosynthesis; Net assimilation rate;
Photorespiration; Carbon; Uptake; Nutrient transport

Abstract: Thalli discs of the marine macroalga *Ulva lactuca* were given inorganic carbon in the form of HCO_3^- , and the progression of photosynthetic O_2 evolution was followed and compared with predicted O_2 evolution as based on calculated external formation of CO_2 (extracellular carbonic anhydrase was not present in this species) and its carboxylation (according to the $K_m(\text{CO}_2)$ of ribulose-1,5-bisphosphate carboxylase/oxygenase), at two different pHs, assuming a photosynthetic quotient of 1. The $K_m(\text{inorganic carbon})$ was some 2.5 times lower at pH 5.6 than at the natural seawater pH of 8.2, whereas V_{max} was similar under the two conditions, indicating that the unnaturally low pH per se had no adverse effect on *U. lactuca*'s photosynthetic performance. These results, therefore, could be evaluated with regard to differential CO_2 and HCO_3^- utilization. The photosynthetic performance observed at the lower pH largely followed that predicted, with a slight discrepancy probably reflecting a minor diffusion barrier to CO_2 uptake. At pH 8.2, however, dehydration rates were too slow to supply CO_2 for the measured photosynthetic response. Given the absence of external carbonic anhydrase activity, this finding supports the view that HCO_3^- transport provides higher than external concentrations of CO_2 at the ribulose-1,5-bisphosphate carboxylase/oxygenase site. Uptake of HCO_3^- by *U. lactuca* was further indicated by the effects of potential inhibitors at pH 8.2. The alleged band 3 membrane anion exchange protein inhibitor 4,4'-diisothiocyano-stilbene-2,2'-disulphonate reduced photosynthetic rates only when HCO_3^- (but not CO_2) could be the extracellular inorganic carbon form taken up. A similar, but less drastic, HCO_3^- -competitive inhibition of photosynthesis was obtained with KI and KNO_3 it is suggested that, under ambient conditions, HCO_3^- is transported into cells at defined sites either via facilitated diffusion or active uptake, and that such transport is the basis for elevate

224

NAL Call. No.: QK564.I52

Variation in annual production by *Ascophyllum nodosum* (L.) Le Jolis (Algae) with degree of exposure to wave action (Nova Scotia).

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Proceedings - International Seaweed Symposium (10th): p. 253-258; 1980. 9 ref.

Language: English

Descriptors: Canada; Marine Areas

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Seaweed cultivation, as a diversification activity in mariculture, has tremendous potential all along the Indian coast. Seaweeds are rich in vitamins and minerals and are consumed as food in various parts of the world and used for the production of phytochemicals, viz., agar, carrageenan and alginate, which are widely employed as gelling, stabilizing and thickening agents in several industries of food, confectionery, pharmaceutical, dairy, textile, paper, paint, etc. In India, seaweeds are used as raw materials for the production of agar, alginate and liquid seaweed fertilizer (LSF). There are Beltsville, Md. : National Agricultural Library, [1993]. Link: page images at HathiTrust. No stable link: This is an uncurated book entry from our extended bookshelves, readable online now but without a stable link here. You should not bookmark this page, but you can request that we add this book to our curated collection, which has stable links. Subject: Marine algae culture. Other copies: Look for editions of this book at your library, or elsewhere. Help with reading books -- Report a bad link -- Suggest a new listing. Home -- Search -- New Listings -- Authors -- Titles -- Subjects -- Serial SEAWEED CULTURE Seaweed harvest calendar As now the demand for raw material from agar manufacturing industries is more, the agarophytes *Gelidium* *acerosa* and *Gelidium* *edulis* are being over exploited from Tamil Nadu coast. Because of the extensive and unrestricted commercial harvest of these seaweeds throughout the year, there is depletion in the stock of these red algae from the natural seaweed beds in Mandapam area during recent years.