

115TH CONGRESS
2D SESSION

H. R. 5373

To provide support for the production of algae, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 21, 2018

Mr. PETERS (for himself, Mr. LAHOOD, Mr. KILMER, and Mr. BIGGS) introduced the following bill; which was referred to the Committee on Agriculture, and in addition to the Committee on Energy and Commerce, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

A BILL

To provide support for the production of algae, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “Algae Agriculture Act of 2018”.

6 (b) TABLE OF CONTENTS.—The table of contents for
7 this Act is as follows:

Sec. 1. Short title; table of contents.

Sec. 2. National conservation practice standard for algae-based nutrient management systems.

Sec. 3. Rural electrification assistance programs.

- Sec. 4. Agriculture and Food Research Initiatives priorities.
- Sec. 5. Foundation for Food and Agriculture Research Purposes.
- Sec. 6. Studies.
- Sec. 7. Center of excellence.
- Sec. 8. Energy programs.
- Sec. 9. Assistance for algae production.

1 **SEC. 2. NATIONAL CONSERVATION PRACTICE STANDARD**
2 **FOR ALGAE-BASED NUTRIENT MANAGEMENT**
3 **SYSTEMS.**

4 Section 1244 of the Food Security Act of 1985 (16
5 U.S.C. 3844) is amended by adding at the end the fol-
6 lowing:

7 “(m) NATIONAL CONSERVATION PRACTICE STAND-
8 ARD FOR ALGAE-BASED NUTRIENT MANAGEMENT SYS-
9 TEMS.—Not later than 2 years after the date of enactment
10 of the Algae Agriculture Act of 2018, the Secretary shall
11 establish and publish in the National Handbook of Con-
12 servation Practices, a national conservation practice
13 standard for algae-based nutrient management systems.”.

14 **SEC. 3. RURAL ELECTRIFICATION ASSISTANCE PROGRAMS.**

15 (a) Section 2(a) of the Rural Electrification Act of
16 1936 (7 U.S.C. 902(a)) is amended by striking “efficiency
17 and conservation” and inserting “efficiency, conservation,
18 and emissions reduction (including carbon capture and
19 use)”.

20 (b) Section 4(a) of the Rural Electrification Act of
21 1936 (7 U.S.C. 904(a)) is amended—

1 (1) inserting after “generating plants” the fol-
2 lowing: “and related emissions reduction facilities
3 (including carbon capture and use)”; and

4 (2) by striking “efficiency and conservation”
5 and inserting “efficiency, conservation, and emis-
6 sions reduction (including carbon capture and use)”.

7 (c) Section 19(a) of the Rural Electrification Act of
8 1936 (7 U.S.C. 918a(a)) is amended in each of para-
9 graphs (1) and (2) by inserting “(including carbon capture
10 and use and other related emissions reduction)” after
11 “generation”.

12 (d) Section 609(e)(3) of the Public Utility Regulatory
13 Policies Act of 1978 (7 U.S.C. 918c(e)(3)) is amended—

14 (1) by striking the period and inserting “—”;
15 and

16 (2) by adding after and below the end the fol-
17 lowing:

18 “(A) renewable energy facilities; and

19 “(B) carbon capture and use.”.

20 **SEC. 4. AGRICULTURE AND FOOD RESEARCH INITIATIVES**
21 **PRIORITIES.**

22 Subsection (b)(2) of the Competitive, Special, and
23 Facilities Research Grant Act (7 U.S.C. 3157(b)(2)) is
24 amended—

25 (1) in subparagraph (A)—

1 (A) in the matter preceding clause (i), by
2 striking “Plant systems” and inserting “Plant
3 and algae systems (including micro- and macro-
4 algae systems)”;

5 (B) in clause (iv), by striking “plant-pest”
6 and inserting “plant- and algae-pest”; and

7 (C) by inserting “and algae” after “plant”
8 each place it appears in clauses (i), (ii), (v),
9 (vi), and (vii);
10 (2) in subparagraph (B)—

11 (A) in clause (ix)(II), by striking “and” at
12 the end;

13 (B) in clause (x), by striking the period at
14 the end and inserting a semicolon; and

15 (C) by adding at the end the following new
16 clauses:

17 “(xi) development and testing of alter-
18 native feeds and feed ingredients to meet
19 growing global demand for proteins, nutri-
20 tional oils, and other feed components; and

21 “(xii) with respect to animal health,
22 immune stimulants and other complements
23 or alternatives to antibiotic drugs and bio-
24 logics.”;

25 (3) in subparagraph (C)—

1 (A) in clause (iv), by striking “and” at the
2 end;

3 (B) in clause (v), by striking the period at
4 the end and inserting “; and”; and

5 (C) by adding at the end the following new
6 clause:

7 “(vi) development and testing of new
8 food ingredients.”;

9 (4) in subparagraph (D)(iii), by inserting “, re-
10 storing soil carbon and soil health,” after “water
11 losses”; and

12 (5) in subparagraph (F)—

13 (A) by redesignating clauses (v), (vi), and
14 (vii) as clauses (vi), (vii), and (viii); and

15 (B) by inserting after clause (iv) the fol-
16 lowing new clause:

17 “(v) economic opportunities from new
18 feedstocks or food products that expand
19 agricultural opportunity in the United
20 States through production on marginal or
21 unproductive land, industrial systems, or
22 coastal or open seawater, or that signifi-
23 cantly increase the yield of food, feed, or
24 other products from existing agricultural
25 land;”.

1 **SEC. 5. FOUNDATION FOR FOOD AND AGRICULTURE RE-**
2 **SEARCH PURPOSES.**

3 Sec. 7601(c)(A) of the Agricultural Act of 2014 (7
4 U.S.C. 5939(c)(A)) is amended by inserting “and algae”
5 after “plant” each place it appears.

6 **SEC. 6. STUDIES.**

7 (a) **ALGAE PROTEIN STUDY.**—

8 (1) **IN GENERAL.**—Not later than 90 days after
9 the date of the enactment of this Act, the Secretary
10 of Agriculture shall initiate a study of algae protein
11 production potential. The study shall—

12 (A) review and validate projected needs
13 and supply gaps for protein in the United
14 States for the next 20 years (beginning with
15 2019), based on current production trends, de-
16 mand and technology outlook;

17 (B) assess the physical and economic feasi-
18 bility for the United States to grow algae (in-
19 cluding microalgae and macroalgae) to address
20 such needs and supply gaps;

21 (C) compare the nutritional profile and
22 benefits of algae with other alternative protein
23 sources and meat proteins;

24 (D) determine public and private activities
25 and investments required to scale up to United

1 States algae protein production over the short-
2 , medium-, and long-term;

3 (E) estimate the number of jobs created,
4 per State and per Congressional district, by
5 fully ramping up production of algae proteins;
6 and

7 (F) estimate the potential value of algae
8 protein exports from the United States by
9 2025, 2030, and 2035.

10 (2) STUDY TEAM MEMBERS.—The team of indi-
11 viduals conducting such study shall include one lab-
12 oratory of the Department of Agriculture, one lab-
13 oratory of the Department of Energy, industry asso-
14 ciations, and academics.

15 (3) REPORT.—Not later than 1 year after the
16 date of the enactment of this Act, the Secretary of
17 Agriculture shall submit to Congress a report that
18 describes the results of the study.

19 (4) FUNDING.—There are authorized to be ap-
20 propriated to carry out this subsection such sums as
21 may be necessary, to remain available until ex-
22 pended.

23 (b) ALGAE FOR SOIL HEALTH STUDY.—

24 (1) STUDY.—Not later than 90 days after the
25 date of the enactment of this Act, the Secretary of

1 Agriculture shall initiate a competitive external
2 study to determine the benefits to microbial diver-
3 sity, the restoration of soil organic carbon and
4 humic substances, and other aspects of soil health of
5 on-field application of algae biomass (including
6 microalgae and macroalgae) or algae-derived compo-
7 nents. The study shall, with respect to the applica-
8 tion of algae biomass—

9 (A) develop a research protocol for a three-
10 year evaluation;

11 (B) conduct field trials;

12 (C) prepare and disseminate an annual
13 progress report to the public on the Internet
14 website of the Department of Agriculture; and

15 (D) prepare and disseminate a final report
16 to the public, including an assessment of oppor-
17 tunities and barriers to commercial deployment.

18 (2) REPORT.—Not later than 4 years after the
19 date of the enactment of this Act, the Secretary
20 shall submit to Congress a report that describes the
21 results of the study.

22 (3) FUNDING.—There are authorized to be ap-
23 propriated to carry out this subsection such sums as
24 may be necessary, to remain available until ex-
25 pended.

1 **SEC. 7. CENTER OF EXCELLENCE.**

2 Section 1673 of the Food, Agriculture, Conservation,
3 and Trade Act of 1990 (7 U.S.C. 5926) is amended by
4 adding at the end the following new subsection:

5 “(d) **ALGAE PROTEIN CENTER OF EXCELLENCE.**—

6 The Secretary shall establish an Algae Protein Center of
7 Excellence to accelerate development of a United States-
8 based algae (including microalgae and macroalgae) indus-
9 try that will serve as a hub for innovation and collabora-
10 tion, among leading United States algae companies, inter-
11 national food corporations, and university research ex-
12 perts. The Center shall be comprised of one center for
13 each of the following major protein markets:

14 “(1) Food.

15 “(2) Animal feed.

16 “(3) Aquaculture feed.”.

17 **SEC. 8. ENERGY PROGRAMS.**

18 (a) **AMENDMENTS TO DEFINITIONS.**—Section 9001
19 of the Farm Security and Rural Investment Act of 2002
20 (7 U.S.C. 8101) is amended—

21 (1) in paragraph (3)(B)—

22 (A) in clause (vi), by striking “and” at the
23 end;

24 (B) in clause (vii), by striking the period
25 at the end and inserting “; and”; and

26 (C) by adding at the end the following:

1 “(viii) fuel derived from biological
2 processing of carbon captured from—

3 “(I) an industrial source that
4 would otherwise be released into the
5 atmosphere; or

6 “(II) air capture.”;

7 (2) in paragraph (4), by inserting “, except
8 food or feed from algae or biological capture and
9 reuse of carbon” after “other than food or feed”;

10 (3) in paragraph (12), by striking “or forestry
11 materials” and inserting “, forestry materials, or
12 fuel derived from biological processing of carbon
13 captured from an industrial source that would other-
14 wise be released into the atmosphere or air capture”;
15 and

16 (4) in paragraph (13)(B)(ii)—

17 (A) in subclause (III), by striking “and” at
18 the end;

19 (B) in subclause (IV), by striking the pe-
20 riod at the end and inserting “; and”; and

21 (C) by adding at the end the following:

22 “(V) fuel derived from biological
23 processing of carbon captured from—

1 “(aa) an industrial source
2 that would otherwise be released
3 into the atmosphere; or

4 “(bb) air capture.”.

5 (b) BIOBASED MARKETS PROGRAM.—Section 9002
6 of the Farm Security and Rural Investment Act of 2002
7 (7 U.S.C. 8102) is amended by adding at the end the fol-
8 lowing:

9 “(k) BIOBASED CONTENT FOR RECYCLED CAR-
10 BON.—Not later than 1 year after the date of the enact-
11 ment of this Act, the Secretary shall establish biobased
12 content methodology for products from biologically recy-
13 cled carbon that provides full credit for carbon content
14 from biological processing of carbon captured from—

15 “(1) an industrial source that would otherwise
16 be released into the atmosphere; or

17 “(2) air capture.”.

18 (c) BIOREFINERY, RENEWABLE CHEMICAL, AND
19 BIOBASED PRODUCT MANUFACTURING ASSISTANCE.—
20 Section 9003 of the Farm Security and Rural Investment
21 Act of 2002 (7 U.S.C. 8103) is amended in subsection
22 (b)(3)—

23 (1) in subparagraph (A), by striking “and” at
24 the end and inserting “or”; and

25 (2) in subparagraph (B)—

1 (A) by inserting “renewable chemical or
2 biobased product” before “technology”; and

3 (B) by striking “biorefinery that produces
4 an advanced biofuel.” and inserting “bio-
5 refinery.”.

6 (d) BIOMASS CROP ASSISTANCE PROGRAM.—Section
7 9011(a)(6)(C) of the Farm Security and Rural Investment
8 Act of 2002 (7 U.S.C. 8111(a)(6)(C)) is amended—

9 (1) by striking subsection (iv); and

10 (2) by redesignating subsections (v) through
11 (vii) as subsections (iv) through (vi), respectively.

12 **SEC. 9. ASSISTANCE FOR ALGAE PRODUCTION.**

13 (a) ELIGIBILITY OF ALGAE FOR NONINSURED CROP
14 DISASTER ASSISTANCE PROGRAM.—Section 196(a)(2)(B)
15 of the Federal Agriculture Improvement and Reform Act
16 of 1996 (7 U.S.C. 7333(a)(2)(B)) is amended by inserting
17 “algae (including microalgae and macroalgae),” after
18 “biomass sorghum,”.

19 (b) RESEARCH AND DEVELOPMENT PRIORITIES.—
20 Section 522(c) of the Federal Crop Insurance Act (7
21 U.S.C. 1522(c)) is amended—

22 (1) in paragraph (6), by inserting “algae (in-
23 cluding microalgae and macroalgae),” after “includ-
24 ing,”;

1 (2) by redesignating paragraph (24) as para-
2 graph (25); and

3 (3) by inserting after paragraph (23) the fol-
4 lowing:

5 “(24) ALGAE INSURANCE POLICIES.—

6 “(A) IN GENERAL.—The Corporation shall
7 offer to enter into 1 or more contracts with
8 qualified entities to carry out research and de-
9 velopment regarding a policy to insure algae
10 (including microalgae and macroalgae) that is
11 grown for the production of food, feed, renew-
12 able biofuel, biobased products, or other pur-
13 poses.

14 “(B) RESEARCH AND DEVELOPMENT.—
15 Research and development with respect to the
16 policy required under subparagraph (A) shall
17 evaluate the effectiveness of risk management
18 tools for the production of algae (including
19 microalgae and macroalgae), including policies
20 and plans of insurance that—

21 “(i) are based on market prices and
22 yields;

23 “(ii) to the extent that insufficient
24 data exist to develop a policy based on
25 market prices and yields, evaluate the poli-

1 cies and plans of insurance based on other
2 factors determined by the Secretary; and
3 “(iii) provide protection for production
4 or revenue losses, or both.”.

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