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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

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A BILL

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

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the ''Algae Agriculture Act of 2018''.

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

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

Section 1244 of the Food Security Act of 1985 (16 U.S.C. 3844) is amended by adding at the end the following:

''(m) NATIONAL CONSERVATION PRACTICE STANDARD FOR ALGAE-BASED NUTRIENT MANAGEMENT SYSTEMS.—Not later than 2 years after the date of enactment of the Algae Agriculture Act of 2018, the Secretary shall establish and publish in the National Handbook of Conservation Practices, a national conservation practice standard for algae-based nutrient management systems.''.

SEC. 3. RURAL ELECTRIFICATION ASSISTANCE PROGRAMS.

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

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

(1) inserting after ''generating plants'' the following: ''and related emissions reduction facilities (including carbon capture and use)''; and

(2) by striking ''efficiency and conservation'' and inserting ''efficiency, conservation, and emissions reduction (including carbon capture and use)''.

(c) Section 19(a) of the Rural Electrification Act of 1936 (7 U.S.C. 918a(a)) is amended in each of paragraphs (1) and (2) by inserting ''(including carbon capture and use and other related emissions reduction)'' after ''generation''.

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

(1) by striking the period and inserting ''—''; and

(2) by adding after and below the end the following:

''(A) renewable energy facilities; and

''(B) carbon capture and use.''.

SEC. 4. AGRICULTURE AND FOOD RESEARCH INITIATIVES PRIORITIES.

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

(1) in subparagraph (A)—

(A) in the matter preceding clause (i), by striking ''Plant systems'' and inserting ''Plant and algae systems (including micro- and macro-algae systems)'';

(B) in clause (iv), by striking ''plant-pest'' and inserting ''plant- and algae-pest''; and

(C) by inserting ''and algae'' after ''plant'' each place it appears in clauses (i), (ii), (v), (vi), and (vii);

(2) in subparagraph (B)—

(A) in clause (ix)(II), by striking ''and'' at the end;

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

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

''(xi) development and testing of alternative feeds and feed ingredients to meet growing global demand for proteins, nutritional oils, and other feed components; and

''(xii) with respect to animal health, immune stimulants and other complements or alternatives to antibiotic drugs and biologics.'';

(3) in subparagraph (C)—

(A) in clause (iv), by striking ''and'' at the end;

(B) in clause (v), by striking the period at the end and inserting ''; and''; and

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

''(vi) development and testing of new food ingredients.'';

(4) in subparagraph (D)(iii), by inserting '', restoring soil carbon and soil health,'' after ''water losses''; and

(5) in subparagraph (F)—

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

(B) by inserting after clause (iv) the following new clause:

''(v) economic opportunities from new feedstocks or food products that expand agricultural opportunity in the United States through production on marginal or unproductive land, industrial systems, or coastal or open seawater, or that significantly increase the yield of food, feed, or other products from existing agricultural land;''.

SEC. 5. FOUNDATION FOR FOOD AND AGRICULTURE RESEARCH PURPOSES.

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

SEC. 6. STUDIES.

(a) ALGAE PROTEIN STUDY.—

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

(A) review and validate projected needs and supply gaps for protein in the United States for the next 20 years (beginning with 2019), based on current production trends, demand and technology outlook;

(B) assess the physical and economic feasibility for the United States to grow algae (including microalgae and macroalgae) to address such needs and supply gaps;

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

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

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

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

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

(2) STUDY TEAM MEMBERS.—The team of individuals conducting such study shall include one laboratory of the Department of Agriculture, one laboratory of the Department of Energy, industry associations, and academics.

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

(4) FUNDING.—There are authorized to be appropriated to carry out this subsection such sums as may be necessary, to remain available until expended.

(b) ALGAE FOR SOIL HEALTH STUDY.—

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

Agriculture shall initiate a competitive external study to determine the benefits to microbial diversity, the restoration of soil organic carbon and humic substances, and other aspects of soil health of on-field application of algae biomass (including microalgae and macroalgae) or algae-derived components. The study shall, with respect to the application of algae biomass—

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

(B) conduct field trials;

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

(D) prepare and disseminate a final report to the public, including an assessment of opportunities and barriers to commercial deployment.

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

(3) FUNDING.—There are authorized to be appropriated to carry out this subsection such sums as may be necessary, to remain available until expended.

SEC. 7. CENTER OF EXCELLENCE.

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

''(d) ALGAE PROTEIN CENTER OF EXCELLENCE.—The Secretary shall establish an Algae Protein Center of Excellence to accelerate development of a United States-based algae (including microalgae and macroalgae) industry that will serve as a hub for innovation and collaboration, among leading United States algae companies, international food corporations, and university research experts. The Center shall be comprised of one center for each of the following major protein markets:

''(1) Food.

''(2) Animal feed.

''(3) Aquaculture feed.''.

SEC. 8. ENERGY PROGRAMS.

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

(1) in paragraph (3)(B)—

(A) in clause (vi), by striking ''and'' at the end;

(B) in clause (vii), by striking the period at the end and inserting ''; and''; and

(C) by adding at the end the following:

''(viii) fuel derived from biological processing of carbon captured from—

''(I) an industrial source that would otherwise be released into the atmosphere; or

''(II) air capture.'';

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

(3) in paragraph (12), by striking ''or forestry materials'' and inserting '', forestry materials, or fuel derived from biological processing of carbon captured from an industrial source that would otherwise be released into the atmosphere or air capture''; and

(4) in paragraph (13)(B)(ii)—

(A) in subclause (III), by striking ''and'' at the end;

(B) in subclause (IV), by striking the period at the end and inserting ''; and''; and

(C) by adding at the end the following:

''(V) fuel derived from biological processing of carbon captured from—

''(aa) an industrial source that would otherwise be released into the atmosphere; or

''(bb) air capture.''.

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

''(k) BIOBASED CONTENT FOR RECYCLED CARBON.—Not later than 1 year after the date of the enactment of this Act, the Secretary shall establish biobased content methodology for products from biologically recycled carbon that provides full credit for carbon content from biological processing of carbon captured from—

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

''(2) air capture.''.

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

(1) in subparagraph (A), by striking ''and'' at the end and inserting ''or''; and

(2) in subparagraph (B)—

(A) by inserting ''renewable chemical or biobased product'' before ''technology''; and

(B) by striking ''biorefinery that produces an advanced biofuel.'' and inserting ''biorefinery.''.

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

(1) by striking subsection (iv); and

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

SEC. 9. ASSISTANCE FOR ALGAE PRODUCTION.

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

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

(1) in paragraph (6), by inserting ''algae (including microalgae and macroalgae),'' after ''including,'';

(2) by redesignating paragraph (24) as paragraph (25); and

(3) by inserting after paragraph (23) the following:

''(24) ALGAE INSURANCE POLICIES.—

''(A) IN GENERAL.—The Corporation shall offer to enter into 1 or more contracts with qualified entities to carry out research and development regarding a policy to insure algae (including microalgae and macroalgae) that is grown for the production of food, feed, renewable biofuel, biobased products, or other purposes.

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

''(i) are based on market prices and yields;

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

cies and plans of insurance based on other factors determined by the Secretary; and

"(iii) provide protection for production or revenue losses, or both.".

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