

AMENDMENT TO RULES COMMITTEE PRINT 119-

22

OFFERED BY MR. SORENSEN OF ILLINOIS

Page 163, after line 4, insert the following:

1 **Subtitle J—Advancing Research on**
2 **Agricultural Soil Health**

3 **SEC. 2901. STANDARD SOIL CARBON MEASUREMENT METH-**
4 **ODOLOGY.**

5 (a) **METHODOLOGY.**—

6 (1) **IN GENERAL.**—Not later than 270 days
7 after the date of enactment of this Act, the Sec-
8 retary shall develop a standardized methodology to
9 directly measure soil carbon for research and con-
10 servation purposes.

11 (2) **REVIEW.**—In developing the methodology
12 under paragraph (1), the Secretary shall conduct a
13 review of widely used existing methodologies for di-
14 rect soil carbon measurement.

15 (3) **CONSULTATION.**—In developing the meth-
16 odology under paragraph (1) and conducting the re-
17 view under paragraph (2), the Secretary shall con-
18 sult with—

1 (A) agricultural producers, including so-
2 cially disadvantaged farmers and ranchers (as
3 defined in section 355(e) of the Consolidated
4 Farm and Rural Development Act (7 U.S.C.
5 2003(e));

6 (B) soil carbon experts;

7 (C) nonprofit organizations;

8 (D) academic researchers; and

9 (E) other stakeholders who reflect the
10 operational, geographic, and socioeconomic di-
11 versity of United States agricultural operations.

12 (4) REQUIREMENTS.—The methodology devel-
13 oped under paragraph (1) shall, to the maximum ex-
14 tent practicable—

15 (A) be usable at any location at which soil
16 carbon can be directly measured;

17 (B) require measurement to a standard
18 soil depth appropriate for the sample site, de-
19 termined using the best available science;

20 (C) measure the soil organic carbon con-
21 centration and any other soil health variables,
22 as determined by the Secretary in consultation
23 with stakeholders described in paragraph (3), to
24 produce a standard set of reporting metrics;

1 (D) produce data that is interoperable with
2 other data collected by the Department;

3 (E) account for calibration differences in
4 soil analysis between testing facilities;

5 (F) account for differences in uncertainty
6 between different measurement tools; and

7 (G) be usable for voluntary reporting of
8 soil carbon data under subsection (b).

9 (b) VOLUNTARY SOIL CARBON REPORTING.—

10 (1) TECHNICAL ASSISTANCE.—

11 (A) IN GENERAL.—The Secretary, acting
12 through the Chief of the Natural Resources
13 Conservation Service, shall provide to producers
14 described in paragraph (2) technical assistance,
15 including guidance, for voluntarily measuring,
16 monitoring, and reporting to the Secretary soil
17 carbon data using the methodology developed
18 under subsection (a).

19 (B) GUIDANCE.—Guidance provided under
20 subparagraph (A) shall be, at a minimum—

21 (i) available in multiple languages;

22 and

23 (ii) available to producers described in
24 paragraph (2) in both digital and analog
25 formats.

1 (2) APPLICABILITY.—The guidance developed
2 under paragraph (1) shall be applicable to—

3 (A) producers that are recipients of grants
4 under programs described in paragraph (3) to
5 voluntarily measure, monitor, and report to the
6 Secretary soil carbon outcomes under those pro-
7 grams; and

8 (B) any other producer that elects to vol-
9 untarily report to the Secretary direct measure-
10 ments of soil carbon.

11 (3) PROGRAMS DESCRIBED.—The programs re-
12 ferred to in paragraph (2)(A) include—

13 (A) conservation innovation grants under
14 section 1240H of the Food Security Act of
15 1985 (16 U.S.C. 3839aa–8);

16 (B) the sustainable agriculture research
17 and education program under subtitle B of title
18 XVI of the Food, Agriculture, Conservation,
19 and Trade Act of 1990 (7 U.S.C. 5801 et seq.);

20 (C) the organic agriculture research and
21 extension initiative established under section
22 1672B of that Act (7 U.S.C. 5925b);

23 (D) grants under the Agriculture and Food
24 Research Initiative under section 2(b) of the

1 Competitive, Special, and Facilities Research
2 Grant Act (7 U.S.C. 3157(b)); and

3 (E) such other programs as the Secretary
4 determines to be appropriate.

5 (c) UPDATES.—

6 (1) IN GENERAL.—The Secretary shall update
7 the methodology developed under subsection (a)(1)
8 and the guidance issued under subsection (b)(1)(B)
9 as needed to reflect the best-available science.

10 (2) INTEROPERABILITY.—In making any up-
11 dates under paragraph (1), the Secretary shall en-
12 sure that information collected with the updated
13 methodology remains interoperable with previously
14 collected measurements.

15 (d) AUTHORIZATION OF APPROPRIATIONS.—There is
16 authorized to be appropriated to carry out this section
17 \$2,000,000 for each fiscal year.

18 **SEC. 2902. DEVELOPMENT OF NEW MEASUREMENT TOOLS**

19 **UNDER AFRI .**

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

23 (1) in clause (vii), by striking “and” at the end;

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

1 (3) by adding at the end the following:

2 “(ix) measuring, monitoring, report-
3 ing, and verifying soil carbon sequestration
4 and emissions.”.

5 **SEC. 2903. SOIL HEALTH AND CARBON DEMONSTRATION**
6 **TRIALS.**

7 (a) ON-FARM CONSERVATION INNOVATION
8 TRIALS.—Section 1240H(c) of the Food Security Act of
9 1985 (16 U.S.C. 3839aa–8(c)) is amended—

10 (1) in paragraph (1)(B)(i), by striking sub-
11 clause (III) and inserting the following:

12 “(III) soil health management
13 systems, including—

14 “(aa) systems to maintain or
15 increase soil carbon levels; and

16 “(bb) cost-effective tools to
17 measure, monitor, report, and
18 verify greenhouse gas emissions
19 and carbon sequestration;”; and

20 (2) in paragraph (3)(D), by striking “3 years”
21 each place it appears and inserting “5 years”.

22 (b) SUSTAINABLE AGRICULTURE RESEARCH AND
23 EDUCATION PROGRAM.—Section 1621(e) of the Food, Ag-
24 riculture, Conservation, and Trade Act of 1990 (7 U.S.C.
25 5811(e)) is amended—

1 (1) by striking “The Secretary” and inserting
2 the following:

3 “(1) IN GENERAL.—The Secretary”; and

4 (2) by adding at the end the following:

5 “(2) SOIL CARBON SEQUESTRATION DEM-
6 ONSTRATION PROJECTS.—In carrying out this sec-
7 tion, the Secretary shall conduct on-farm demonstra-
8 tion projects for soil carbon sequestration.”.

9 **SEC. 2904. SOIL CARBON INVENTORY AND ANALYSIS NET-**
10 **WORK.**

11 Chapter 5 of subtitle D of title XII of the Food Secu-
12 rity Act of 1985 is amended by inserting after section
13 12400 (16 U.S.C. 3839bb) the following:

14 **“SEC. 1240P. SOIL CARBON INVENTORY AND ANALYSIS NET-**
15 **WORK.**

16 “(a) DEFINITIONS.—In this section:

17 “(1) CONSERVATION ACTIVITIES.—The term
18 ‘conservation activities’ has the meaning given the
19 term in section 1240I.

20 “(2) ELIGIBLE LAND.—The term ‘eligible land’
21 means public and private cropland, rangeland,
22 pastureland, and wetlands in the United States.

23 “(3) PROGRAM.—The term ‘program’ means
24 the program established under subsection (b)(1).

1 “(4) REGIONAL RESOURCE AREA.—The term
2 ‘regional resource area’ means a contiguous area of
3 eligible land that has similar resource characteris-
4 tics.

5 “(5) RESOURCE CHARACTERISTICS.—The term
6 ‘resource characteristics’ means—

7 “(A) geographic, long-term weather pat-
8 tern, natural resource, and soil type character-
9 istics; and

10 “(B) any other characteristics that the
11 Secretary determines to be appropriate for the
12 purpose of carrying out the program.

13 “(6) SECRETARY.—The term ‘Secretary’ means
14 the Secretary, acting jointly through the Chief of the
15 Natural Resources Conservation Service and the Ad-
16 ministrator of the Agricultural Research Service.

17 “(b) ESTABLISHMENT.—

18 “(1) IN GENERAL.—The Secretary shall estab-
19 lish a program to inventory, monitor, and analyze
20 soil carbon changes on eligible land in the United
21 States.

22 “(2) PURPOSES.—The purposes of the program
23 are—

1 “(A) to analyze soil properties, including
2 soil organic carbon, across space, time, and
3 depth;

4 “(B) to analyze the impacts of land man-
5 agement strategies, including conservation ac-
6 tivities, on soil carbon sequestration; and

7 “(C) to inform any tools of the Secretary
8 designed to predict the impacts of different land
9 management practices, including implementing
10 conservation activities, on soil carbon and asso-
11 ciated environmental outcomes, such as resil-
12 ience to extreme weather, reduced farm inputs,
13 or other environment impacts, as determined by
14 the Secretary, across the United States.

15 “(3) CONSULTATION.—In carrying out the pro-
16 gram, the Secretary shall consult with the Director
17 of the National Institute of Food and Agriculture,
18 the Chief of the Forest Service, the Chief Data Offi-
19 cer, the Administrator of the Environmental Protec-
20 tion Agency, the Secretary of Energy, and the head
21 of any other department or agency that the Sec-
22 retary determines to be appropriate.

23 “(c) SAMPLING.—

1 “(1) SAMPLE SITES.—The Secretary shall select
2 sample sites under the program by taking into con-
3 sideration—

4 “(A) the accessibility of sites;

5 “(B) the ease of collecting repeated meas-
6 urements over time; and

7 “(C) such other factors as the Secretary
8 determines to be appropriate.

9 “(2) PREFERENCE.—In selecting sample sites
10 under paragraph (1), the Secretary shall give pref-
11 erence to sites that have been used for soil testing
12 previously.

13 “(3) NUMBER OF SAMPLE SITES.—The Sec-
14 retary shall select sufficient sample sites under para-
15 graph (1) to analyze changes in soil carbon across
16 regional resource areas, as determined by the Sec-
17 retary, over time, taking into account the geo-
18 graphical size and heterogeneity of each regional re-
19 source area.

20 “(d) SOIL CARBON INVENTORY.—

21 “(1) IN GENERAL.—Every 5 years, the Sec-
22 retary shall prepare an inventory of soil carbon
23 stocks on eligible land, under which the Secretary
24 shall collect measurements at each sample site se-
25 lected under subsection (c).

1 “(2) METHODOLOGY.—The Secretary shall en-
2 sure that the methodology developed under section
3 3(a) of the Farm, Food, and National Security Act
4 of 2026 is used for purposes of conducting measure-
5 ments at each sample site under the program.

6 “(3) MINIMUM NUMBER OF SAMPLES.—The
7 Secretary shall measure a sufficient number of sam-
8 ples to analyze changes in soil carbon at each sample
9 site selected under subsection (c) for each inventory
10 under paragraph (1).

11 “(4) CHARACTERISTICS.—In preparing the in-
12 ventory under paragraph (1), the Secretary shall
13 document the following characteristics for each sam-
14 ple site selected under subsection (c):

15 “(A) Soil type and texture.

16 “(B) Land use history, including conserva-
17 tion activities.

18 “(C) Environmental characteristics, such
19 as temperature and precipitation.

20 “(D) Other characteristics, as determined
21 by the Secretary.

22 “(e) INDIVIDUAL PROTECTIONS.—

23 “(1) PROTECTION OF PRIVATE PROPERTY
24 RIGHTS.—Before selecting a sample site under sub-
25 section (c) or conducting any measurement under

1 subsection (d)(1), the Secretary shall obtain author-
2 ization from the owner of the eligible land.

3 “(2) VOLUNTARINESS REQUIREMENT.—The
4 Secretary may not require authorization under para-
5 graph (1) or any other participation in any activity
6 under this section as a condition on receipt of any
7 benefit under a program administered by the Sec-
8 retary.

9 “(3) DATA PRIVACY PROTECTION.—In carrying
10 out the program, the Secretary shall ensure that
11 data is collected and analyzed while respecting rel-
12 evant privacy safeguards and does not include any
13 identifiable, proprietary, or personal information of
14 individual land owners or operators.

15 “(f) SOIL CHARACTERISTICS INVENTORY.—

16 “(1) IN GENERAL.—Survey and analysis infor-
17 mation collected under the program shall be main-
18 tained in a soil characteristics inventory operated by
19 the Secretary.

20 “(2) PARTNERSHIPS.—The inventory described
21 in paragraph (1) may be operated in partnership
22 with 1 or more of the following entities, if the entity
23 complies with paragraph (4):

24 “(A) An 1862 Institution (as defined in
25 section 2 of the Agricultural Research, Exten-

1 sion, and Education Reform Act of 1998 (7
2 U.S.C. 7601)).

3 “(B) An 1890 Institution (as defined in
4 that section).

5 “(C) A 1994 Institution (as defined in sec-
6 tion 532 of the Equity in Educational Land-
7 Grant Status Act of 1994 (7 U.S.C. 301 note;
8 Public Law 103–382)).

9 “(D) Institutions of higher education with
10 expertise in predictive modeling, large-scale
11 data collection, soil carbon research, or agricul-
12 tural conservation management practices.

13 “(E) Federal research centers.

14 “(3) APPLICATIONS.—An entity described in
15 any of subparagraphs (A) through (E) of paragraph
16 (2) seeking to enter into a partnership to manage
17 the inventory described in paragraph (1) shall sub-
18 mit to the Secretary an application at such time, in
19 such manner, and containing such information as
20 the Secretary may require.

21 “(4) REQUIREMENTS.—The inventory described
22 in paragraph (1) shall—

23 “(A) use the industry standard protocols
24 to protect identifiable, proprietary, or personal

1 information of individual land owners or opera-
2 tors;

3 “(B) ensure that individual producer infor-
4 mation is not sold through the inventory; and

5 “(C) comply with all applicable privacy re-
6 quirements, including—

7 “(i) section 1770 of the Food Security
8 Act of 1985 (7 U.S.C. 2276);

9 “(ii) section 1619 of the Food, Con-
10 servation, and Energy Act of 2008 (7
11 U.S.C. 8791);

12 “(iii) section 502(c) of the Federal
13 Crop Insurance Act (7 U.S.C. 1502(c));
14 and

15 “(iv) section 552 of title 5, United
16 States Code.

17 “(5) LIMITED RELEASE OF INFORMATION.—
18 The Secretary may release or disclose information
19 maintained in the inventory described in paragraph
20 (1) pursuant to section 1619(b)(3)(A)(i) of the
21 Food, Conservation, and Energy Act of 2008 (7
22 U.S.C. 8791(b)(3)(A)(i)) to researchers for the pur-
23 poses of statistically analyzing the information.

1 “(g) PUBLIC AVAILABILITY.—On completion of each
2 inventory under subsection (d)(1), the Secretary shall
3 make publicly available—

4 “(1) the statistical or aggregated form of data
5 collected from measurements under that subsection;

6 “(2) information regarding the methodology
7 used to collect that data; and

8 “(3) any analysis made of the measurements
9 described in paragraph (1).

10 “(h) REPORTS.—On completion of each inventory
11 under subsection (d)(1), the Secretary shall prepare, pub-
12 lish, and make available to the public a report that—

13 “(1) contains a description of soil carbon
14 trends, including by incorporating measurements
15 conducted under subsection (d) during the 5 years
16 covered by the report;

17 “(2) contains an analysis of the impact of dif-
18 ferent land management practices, including imple-
19 menting 1 or more conservation activities, on soil
20 carbon levels;

21 “(3) contains an analysis of the effect of short-
22 and long-term weather variability on the observed
23 trends;

24 “(4) contains an analysis of how land manage-
25 ment practices, including conservation activities,

1 that influence soil carbon sequestration may affect
2 the rate of increase in atmospheric carbon and other
3 gases in the agricultural sector, including methane
4 and nitrous oxide; and

5 “(5) establishes a benchmark for the baseline
6 soil carbon absent additional conservation activities.

7 “(i) STRATEGIC PLAN.—Not later than 1 year after
8 the date of enactment of the Farm, Food, and National
9 Security Act of 2026, the Secretary shall prepare and sub-
10 mit to Congress a strategic plan to implement and carry
11 out this section, which shall describe in detail—

12 “(1) the organization and procedures necessary
13 to implement and carry out this section; and

14 “(2) the plan for measurements in each re-
15 gional resource area under subsection (d)(1) for the
16 first 5-year interval, including the schedule and the
17 number of samples collected from each sample site
18 selected under subsection (e).

19 “(j) AUTHORIZATION OF APPROPRIATIONS.—There
20 is authorized to be appropriated to carry out this section
21 \$17,500,000 for each fiscal year.”.

22 **SEC. 2905. PREDICTIVE MODELS.**

23 (a) IN GENERAL.—The Secretary shall develop and
24 maintain a modeling tool (or combination of tools) that
25 shall predict the impacts of different land management

1 practices, including implementing conservation activities,
2 on atmospheric carbon, methane, and nitrous oxide and
3 soil carbon sequestration across the United States.

4 (b) CONSULTATION.—In developing the modeling tool
5 or tools under subsection (a), the Secretary shall consult
6 with—

7 (1) the Secretary of Energy;

8 (2) the Administrator of the Environmental
9 Protection Agency;

10 (3) agricultural producers, including socially
11 disadvantaged farmers and ranchers (as defined in
12 section 355(e) of the Consolidated Farm and Rural
13 Development Act (7 U.S.C. 2003(e)));

14 (4) soil carbon experts;

15 (5) nonprofit organizations;

16 (6) academic researchers;

17 (7) private companies with expertise in soil car-
18 bon sequestration or in atmospheric carbon, meth-
19 ane, and nitrous oxide monitoring for agricultural
20 operations; and

21 (8) other stakeholders, including the heads of
22 other appropriate Federal agencies or non-Federal
23 entities, who reflect the operational, geographic, and
24 socioeconomic diversity of United States agricultural
25 operations.

1 (c) REQUIREMENTS.—The modeling tool or tools de-
2 scribed in subsection (a) shall—

3 (1) be anchored in direct measurements of land,
4 including soil sampling, such as under the program
5 established under section 1240P of the Food Secu-
6 rity Act of 1985 and the programs described in sec-
7 tion 3(b)(3);

8 (2) account for differences that could impact
9 land management outcomes, including—

10 (A) soil type;

11 (B) type of land use;

12 (C) type of crop;

13 (D) geography and local long-term weather
14 patterns;

15 (E) geographic size of the land-use oper-
16 ation;

17 (F) ongoing or existing conservation activi-
18 ties; and

19 (G) such other items as the Secretary de-
20 termines to be appropriate;

21 (3) allow a user of the tool to estimate the
22 changes in atmospheric carbon, methane, and ni-
23 trous oxide or soil carbon sequestration, and the un-
24 certainty of those estimated changes, that occur as

1 a result of implementing 1 or more conservation ac-
2 tivities; and

3 (4) be user-friendly and accessible—

4 (A) to producers and researchers; and

5 (B) in multiple languages.

6 (d) **REVIEWS AND UPDATES.**—

7 (1) **REVIEWS.**—Not less frequently than annu-
8 ally, the modeling tool or tools described in sub-
9 section (a) shall be reviewed to determine if an up-
10 date is required to reflect the best available data and
11 science.

12 (2) **UPDATES.**—If it is determined that an up-
13 date is required under paragraph (1), the update
14 shall be made not later than 1 year after the date
15 of that determination.

16 (e) **PARTNERS.**—

17 (1) **IN GENERAL.**—In analyzing data, con-
18 ducting research, and developing and maintaining
19 the modeling tool or tools under subsection (a), the
20 Secretary may partner with—

21 (A) an Institution described in paragraph

22 (2);

23 (B) an institution of higher education with
24 expertise in predictive modeling, large-scale

1 data collection, soil carbon research, or agricul-
2 tural conservation management; or

3 (C) a Federal research center.

4 (2) INSTITUTIONS DESCRIBED.—An Institution
5 referred to in paragraph (1)(A) is any of the fol-
6 lowing:

7 (A) An 1862 Institution (as defined in sec-
8 tion 2 of the Agricultural Research, Extension,
9 and Education Reform Act of 1998 (7 U.S.C.
10 7601)).

11 (B) An 1890 Institution (as defined in
12 that section).

13 (C) A 1994 Institution (as defined in sec-
14 tion 532 of the Equity in Educational Land-
15 Grant Status Act of 1994 (7 U.S.C. 301 note;
16 Public Law 103–382)).

17 (f) REPORTING.—Not later than 2 years after the
18 date of enactment of this Act, and annually thereafter,
19 the Secretary shall submit to Congress a report that—

20 (1) describes the progress of the Secretary in
21 developing the modeling tool or tools under sub-
22 section (a);

23 (2) contains an assessment of the accuracy with
24 which a user will be able to use the tool to determine
25 the permanence and additionality of atmospheric

1 carbon, methane, and nitrous oxide reduced or car-
2 bon sequestered;

3 (3) describes the models and survey and anal-
4 ysis information that the Secretary has developed or
5 collected, or intends to develop or collect, as applica-
6 ble, for purposes of developing or maintaining the
7 tool;

8 (4) describes—

9 (A) whether it was determined that an up-
10 date was required under subsection (d)(1); and

11 (B) if an update was required, the specifics
12 of the update; and

13 (5) includes any other information that, as de-
14 termined by the Secretary, is relevant to—

15 (A) the efficacy of the tool;

16 (B) the intended applications of the tool;

17 or

18 (C) the determination of—

19 (i) changes in atmospheric carbon,
20 methane, and nitrous oxide or soil carbon
21 sequestration associated with producer
22 land-use practices; or

23 (ii)(I) estimates of the impacts of land
24 use practices, including conservation activi-
25 ties, on atmospheric carbon, methane, and

1 nitrous oxide and soil carbon sequestration;
2 and
3 (II) the measurement error of the
4 tool.

5 (g) AUTHORIZATION OF APPROPRIATIONS.—There is
6 authorized to be appropriated to carry out this section
7 \$500,000 for each fiscal year.

