

**AMENDMENT TO H.R. 4368, AS REPORTED
OFFERED BY MRS. MILLER-MEEKS OF IOWA**

At the end of the bill (before the spending reduction account), insert the following:

1 NATIONAL BIOCHAR RESEARCH NETWORK

2 SEC. ____.

3 Title IV of the Agricultural Research, Extension, and
4 Education Reform Act of 1998 is amended by inserting
5 before section 404 (7 U.S.C. 7624) the following:

6 **“SEC. 403. NATIONAL BIOCHAR RESEARCH NETWORK.**

7 “(a) ESTABLISHMENT.—The Secretary shall estab-
8 lish a national biochar research network (referred to in
9 this section as the ‘research network’) of not more than
10 20 research sites or facilities described in subsection (c)
11 to test the full range of biochar types across soil types,
12 soil health and soil management conditions, application
13 methods, and climatic and agronomic regions—

14 “(1) to assess the soil carbon sequestration po-
15 tential of various biochars and management systems
16 integrating biochar use;

17 “(2) to understand how to use biochar produc-
18 tively to contribute to climate mitigation, crop pro-
19 duction, resilience to extreme weather events, eco-

1 system and soil health, natural resource conserva-
2 tion, and farm profitability; and

3 “(3) to deliver science-based, region-specific,
4 cost-effective, and practical information to farmers,
5 ranchers, foresters, land reclamation managers,
6 urban land managers, and other land and natural
7 resource managers and businesses on sustainable
8 biochar production and application.

9 “(b) SCOPE.—

10 “(1) IN GENERAL.—The research network shall
11 encompass—

12 “(A) agriculture, horticulture, rangeland,
13 forestry, and other biochar uses; and

14 “(B) a broad range of feedstocks, produc-
15 tion processes, and application treatments.

16 “(2) RESEARCH.—The research conducted by
17 the research network shall include—

18 “(A) cross-site and mechanistic experi-
19 ments—

20 “(i) to fill critical knowledge gaps and
21 gain a more complete understanding of the
22 impact of various types of biochar in vary-
23 ing site conditions on soil properties, plant
24 growth, greenhouse gas emissions, and car-
25 bon sequestration in different soils, cli-

1 mates, and other natural and agronomic
2 conditions;

3 “(ii) to provide mechanistic and
4 technoeconomic insights on thermochemical
5 conversion processes in biochar production
6 and the coproduction of biochar and bio-
7 energy, including interactions of feedstock
8 properties with reactor conditions and
9 processes on the relative proportions and
10 properties of biochar, biofuels, and value-
11 added coproducts, as well as process effi-
12 ciency;

13 “(iii) to generate data to develop, cali-
14 brate, and validate robust mechanistic
15 models to predict the full life cycle of
16 greenhouse gas, crop response, and related
17 agronomic and environmental implications
18 of particular applications of biochar;

19 “(iv) to generate data to help guide
20 the design of new, more efficient biochar
21 and bioenergy production reactors and bio-
22 refineries; and

23 “(v) to generate data to develop, cali-
24 brate, and validate testing methodologies
25 for biochar to identify potential contami-

1 nants or other factors that may cause un-
2 intended consequences; and

3 “(B) site-specific farm and forestry sys-
4 tems assessments and pilot-scale biochar pro-
5 duction and application systems—

6 “(i) to refine the most promising soil-
7 based uses, sources, and methods of pro-
8 ducing and applying biochar in particular
9 regions—

10 “(I) to enhance productivity;

11 “(II) to increase profitability,
12 scalability, and portability;

13 “(III) to reduce greenhouse gas
14 emissions;

15 “(IV) to improve ecosystem and
16 soil health;

17 “(V) to strengthen resilience to
18 extreme weather events; and

19 “(VI) to explore soil, crop, cli-
20 mate, management, and biochar inter-
21 actions;

22 “(ii) to develop new knowledge to sup-
23 port decisions on sustainable production
24 and use of biochar;

1 “(iii) to collect relevant data needed
2 for full life cycle greenhouse gas and eco-
3 nomic analyses and complete those anal-
4 ysis;

5 “(iv) to predict plant response, soil
6 health, soil carbon sequestration, eco-
7 system health, water quality, greenhouse
8 gas, and economic outcomes for specific
9 implementations of biochar technology;

10 “(v) to provide data to evaluate local
11 biomass feedstocks, support selection of
12 sustainable biochar production methods,
13 and address biochar production issues; and

14 “(vi) to share research results to in-
15 form farmers, horticulturalists, ranchers,
16 foresters, urban biochar users, extension
17 agents and specialists, and technical assist-
18 ance providers on the most advantageous
19 ways to use biochar to increase profit-
20 ability, raise productivity, lower costs, im-
21 prove soil and plant health, and enhance
22 resilience to extreme weather events while
23 contributing to carbon sequestration and
24 greenhouse gas reductions.

1 “(c) ELIGIBILITY.—An entity shall be eligible to be
2 selected to conduct research as part of the research net-
3 work if the entity is—

4 “(1) a State agricultural experiment station or
5 a State forestry experiment station;

6 “(2) a research facility of the Agricultural Re-
7 search Service, the Forest Service, or any other
8 agency of the Department of Agriculture that the
9 Secretary determines to be appropriate; or

10 “(3) a research facility of the Department of
11 Energy, the Department of Commerce, or the De-
12 partment of the Interior.

13 “(d) ADMINISTRATION.—

14 “(1) IN GENERAL.—The research network shall
15 be administered by the Administrator of the Agricul-
16 tural Research Service, in partnership with—

17 “(A) the Chief of the Forest Service;

18 “(B) the Director of the National Institute
19 of Food and Agriculture;

20 “(C) the Secretary of Energy;

21 “(D) the Secretary of Commerce;

22 “(E) the Secretary of the Interior; and

23 “(F) such other agencies of the Depart-
24 ment of Agriculture as the Secretary determines
25 to be appropriate.

1 “(2) CONSERVATION.—The Secretary, acting
2 through the Chief of the Natural Resources Con-
3 servation Service—

4 “(A) may develop or revise practice stand-
5 ards informed by the research conducted by the
6 research network; and

7 “(B) shall coordinate the activities of the
8 research network with—

9 “(i) the development, expansion, and
10 refinement of conservation practice stand-
11 ards for biochar production and use for
12 soil and forest health, climate adaptation
13 and mitigation, and other conservation
14 purposes; and

15 “(ii) improvements and expansion of
16 conservation program technical and finan-
17 cial support for biochar production, appli-
18 cation, and integration into soil health
19 management systems and other conserva-
20 tion approaches.”.

