

118TH CONGRESS
1ST SESSION

S. _____

To enhance the participation of precision agriculture in the United States,
and for other purposes.

IN THE SENATE OF THE UNITED STATES

Mr. THUNE (for himself and Mr. WARNOCK) introduced the following bill;
which was read twice and referred to the Committee on

A BILL

To enhance the participation of precision agriculture in the
United States, 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.**

4 This Act may be cited as the “Promoting Precision
5 Agriculture Act of 2023”.

6 **SEC. 2. DEFINITIONS.**

7 In this Act:

8 (1) 3GPP.—The term “3GPP” means the
9 Third Generation Partnership Project.

1 (2) **ADVANCED WIRELESS COMMUNICATIONS**
2 **TECHNOLOGY.**—The term “advanced wireless com-
3 munications technology” means advanced technology
4 that contributes to mobile (5G or beyond) networks,
5 next-generation Wi-Fi networks, or other future net-
6 works using other technologies, regardless of wheth-
7 er the network is operating on an exclusive licensed,
8 shared licensed, or unlicensed frequency band.

9 (3) **ARTIFICIAL INTELLIGENCE.**—The term “ar-
10 tificial intelligence” has the meaning given the term
11 in section 238(g) of the John S. McCain National
12 Defense Authorization Act for Fiscal Year 2019
13 (Public Law 115–232; 10 U.S.C. note prec. 4061).

14 (4) **FOREIGN ADVERSARY.**—The term “foreign
15 adversary” means any foreign government or foreign
16 nongovernment person engaged in a long-term pat-
17 tern or serious instances of conduct significantly ad-
18 verse to the national security of the United States,
19 or security and safety of United States persons.

20 (5) **PRECISION AGRICULTURE.**—The term “pre-
21 cision agriculture” means managing, tracking, or re-
22 ducing crop or livestock production inputs, including
23 seed, feed, fertilizer, chemicals, water, time, and
24 such other inputs as the Secretary determines to be
25 appropriate, at a heightened level of spatial and tem-

1 poral granularity to improve efficiencies, reduce
2 waste, and maintain environmental quality.

3 (6) PRECISION AGRICULTURE EQUIPMENT.—

4 The term “precision agriculture equipment” means
5 any equipment or technology that directly contrib-
6 utes to a reduction in, or improved efficiency of, in-
7 puts used in crop or livestock production, includ-
8 ing—

9 (A) global positioning system-based or
10 geospatial mapping;

11 (B) satellite or aerial imagery;

12 (C) yield monitors;

13 (D) soil mapping;

14 (E) sensors for gathering data on crop,
15 soil, and livestock conditions;

16 (F) Internet of Things and technology that
17 relies on edge and cloud computing;

18 (G) data management software and ad-
19 vanced analytics;

20 (H) network connectivity products and so-
21 lutions, including public and private wireless
22 networks;

23 (I) global positioning system guidance,
24 auto-steer systems, autonomous fleetings, and
25 other machine-to-machine operations;

1 (J) variable rate technology for applying
2 inputs, such as section control; and

3 (K) any other technology that leads to a
4 reduction in, or improves efficiency of, crop and
5 livestock production inputs, which may in-
6 clude—

7 (i) seed;

8 (ii) feed;

9 (iii) fertilizer;

10 (iv) chemicals;

11 (v) water;

12 (vi) time;

13 (vii) fuel;

14 (viii) emissions; and

15 (ix) such other inputs as the Sec-
16 retary determines to be appropriate.

17 (7) SECRETARY.—The term “Secretary” means
18 the Secretary of Agriculture.

19 (8) TRUSTED.—The term “trusted” means,
20 with respect to a provider of advanced communica-
21 tions service or a supplier of communications equip-
22 ment or service, that the Secretary has determined
23 that the provider or supplier is not owned by, con-
24 trolled by, or subject to the influence of, a foreign
25 adversary.

1 (9) VOLUNTARY CONSENSUS STANDARDS DE-
2 VELOPMENT ORGANIZATION.—

3 (A) IN GENERAL.—The term “voluntary
4 consensus standards development organization”
5 means an organization that develops standards
6 in a process that meets the principles for the
7 development of voluntary consensus standards
8 (as defined in the document of the Office of
9 Management and Budget entitled “Federal Par-
10 ticipation in the Development and Use of Vol-
11 untary Consensus Standards and in Conformity
12 Assessment Activities” (OMB Circular A–119)).

13 (B) INCLUSIONS.—The term “voluntary
14 consensus standards development organization”
15 includes the 3GPP, the Alliance for Tele-
16 communications Industry Solutions, the Agri-
17 cultural Industry Electronics Foundation, and
18 the Global System for Mobile Communications
19 Association.

20 **SEC. 3. PURPOSES.**

21 The purposes of this Act are—

22 (1) to enhance the participation of precision ag-
23 riculture in the United States; and

1 (2) to promote United States leadership in vol-
2 untary consensus standards development organiza-
3 tions that set standards for precision agriculture.

4 **SEC. 4. INTERCONNECTIVITY STANDARDS FOR PRECISION**
5 **AGRICULTURE.**

6 (a) IN GENERAL.—Not later than 2 years after the
7 date of enactment of this Act, the Secretary, in consulta-
8 tion with the Director of the National Institute of Stand-
9 ards and Technology, shall—

10 (1) develop voluntary, consensus-based, private
11 sector-led interconnectivity standards, guidelines,
12 and best practices for precision agriculture that will
13 promote economies of scale and ease the burden of
14 the adoption of precision agriculture; and

15 (2) in carrying out paragraph (1)—

16 (A) coordinate with relevant public and
17 trusted private sector stakeholders and other
18 relevant industry organizations, including vol-
19 untary consensus standards development orga-
20 nizations; and

21 (B) consult with sector-specific agencies,
22 other appropriate agencies, and State and local
23 governments.

24 (b) CONSIDERATIONS.—The Secretary, in carrying
25 out subsection (a), shall, in consultation with the Federal

1 Communications Commission and the Director of the Na-
2 tional Institute of Standards and Technology, consider—

3 (1) the evolving demands of precision agri-
4 culture;

5 (2) the connectivity needs of precision agri-
6 culture equipment;

7 (3) the cybersecurity challenges facing precision
8 agriculture, including cybersecurity threats for agri-
9 culture producers and agriculture supply chains;

10 (4) the impact of advanced wireless communica-
11 tions technology on precision agriculture; and

12 (5) the impact of artificial intelligence on preci-
13 sion agriculture.

14 **SEC. 5. GAO ASSESSMENT OF PRECISION AGRICULTURE**
15 **STANDARDS.**

16 (a) STUDY.—Not later than 1 year after the Sec-
17 retary develops standards under section 4, and every 2
18 years thereafter for the following 8 years, the Comptroller
19 General of the United States shall conduct a study that
20 assesses those standards, including the extent to which
21 those standards, as applicable—

22 (1) are voluntary;

23 (2) were developed in coordination with relevant
24 industry organizations, including voluntary con-
25 sensus standards development organizations; and

1 (3) have successfully encouraged the adoption
2 of precision agriculture.

3 (b) REPORT.—The Comptroller General of the
4 United States shall submit to the Committee on Com-
5 merce, Science, and Transportation of the Senate and the
6 Committee on Science, Space, and Technology of the
7 House of Representatives a report that summarizes the
8 findings of each study conducted under subsection (a).