American Society of Agricultural and Biological Engineers

ASABE is a professional and technical organization, of members worldwide, who are dedicated to advancement of engineering applicable to agricultural, food, and biological systems. ASABE Standards are consensus documents developed and adopted by the American Society of Agricultural and Biological Engineers to meet standardization needs within the scope of the Society; principally agricultural field equipment, farmstead equipment, structures, soil and water resource management, turf and landscape equipment, forest engineering, food and process engineering, electric power applications, plant and animal environment, and waste management.

NOTE: ASABE Standards, Engineering Practices, and Data are informational and advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. The ASABE assumes no responsibility for results attributable to the application of ASABE Standards, Engineering Practices, and Data. Conformity does not ensure compliance with applicable ordinances, laws and regulations. Prospective users are responsible for protecting themselves against liability for infringement of patents.

ASABE Standards, Engineering Practices, and Data initially approved prior to the society name change in July of 2005 are designated as "ASAE", regardless of the revision approval date. Newly developed Standards, Engineering Practices and Data approved after July of 2005 are designated as "ASABE".

Standards designated as "ANSI" are American National Standards as are all ISO adoptions published by ASABE. Adoption as an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by ASABE.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution.

CAUTION NOTICE: ASABE and ANSI standards may be revised or withdrawn at any time. Additionally, procedures of ASABE require that action be taken periodically to reaffirm, revise, or withdraw each standard.

Copyright American Society of Agricultural and Biological Engineers. All rights reserved.

ASABE, 2950 Niles Road, St. Joseph, MI 49085-9659, USA, phone 269-429-0300, fax 269-429-3852, hq@asabe.org
Procedure for Measuring Distribution Uniformity and Calibrating Granular Broadcast Spreaders


Keywords: Distribution, Granular, Spreaders, Test

1 Purpose and Scope

1.1 Purpose. The purpose of this Standard is to establish a uniform method of determining and reporting performance data on broadcast spreaders designed to surface apply granular materials. Tests performed according to this Standard make it possible to predict distribution uniformity of a broadcast spreader and to compare spreader distribution patterns.

1.2 Scope. This Standard pertains to centrifugal, pendulum, and other types of broadcast spreaders designed for dry granular application while operating on the soil surface. Portions of the test procedures outlined herein are suitable for determining the delivery rate of gravity or drop spreaders; however, additional tests not covered in this Standard are needed to completely evaluate the performance of gravity spreaders. This Standard does not cover dry pneumatic granular applicators.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies unless noted. For undated references, the latest approved edition of the referenced document (including any amendments) applies.

ASTM E11, Standard specification for woven wire test sieve cloth and test sieves

ASAE S281, Capacity Designation for Fertilizer Pesticide Hoppers and Containers

ASAE S327, Terminology and Definitions for Application of Crop or Forestry Production and Protection Agents

3 Definitions

3.1 application, one-direction: An application method in which successive adjacent swaths are made in the same direction of travel (racetrack or circuitous application). This method produces a right-on-left overlapping of adjacent patterns.

3.2 application, progressive: An application method in which the spreader applies adjacent swaths in alternate directions (back and forth application). This method produces a right-on-right pattern overlap alternately with a left-on-left pattern overlap.