

CURRENT ASABE STANDARDS PROJECTS

April 1, 2025

The following projects to develop new ASABE standards and to revise existing ASABE standards are being undertaken by various ASABE committees shown below. Updates can be found at the following link:

<https://www.asabe.org/Publications-Standards/Standards-Develop-Standards/Standards-Updates>

ASE-16, Engineering for Sustainability	
X659	Life Cycle Assessment Methodology for Agricultural Systems
	Agricultural Life Cycle Assessments (LCAs) evaluate the environmental impacts of agricultural products and processes across their entire lifecycle. They measure resource inputs (water, energy, land, fertilizers, and others), emissions (greenhouse gases, pollutants, and others) environmental impacts (climate change, acidification, eutrophication, and others), resource depletion, and waste generation. LCAs analyze impacts within systems boundaries, the most inclusive being from "cradle to grave" - from raw material extraction through production, use, and disposal. These LCAs are used to measure environmental impacts, compare processes and products, develop strategies for improvement, and identify areas of risks in agricultural systems (food, feed, fiber, fuel, timber, wood products, and other land-based production systems from the bioeconomy).
ES-210, Renewable Power Generation	
X669	Terminology and Definitions for Agrivoltaics
	Standard terminology and definitions are badly needed to help direct and focus research, development, and manufacturing for the emerging, quickly growing area of Agrivoltaics.
ES-238, Solid Biofuels and US TAG to ISO/TC 238	
X668	Methods for Measurement and Testing of Biochar
	Markets for biochar and biochar carbon removal credits are growing rapidly, however the international standards for biochar analysis currently in use were developed in 2015 by pulling standards from various industries, resulting in poor methodological alignment. As a result, laboratory comparability is poor and only a few labs are capable of providing a full analysis per the published international standards. Other organizations in Europe have also developed standards, however these are largely based on German methods and are managed by a private company. North American markets urgently need an American National standard that defines what biochar is, properties of biochar, and test methods that can be used for the analysis of biochar.
ES-310, Agricultural Lighting Group	
*X344.5	Lighting Systems for Agricultural Facilities
	Correction of recommendation that is leading to over lighting of dairy housing and vegetable sorting facilities.

X640.1	Quantities and Units of Electromagnetic Radiation for Plants (Photosynthetic Organisms)
	In the past five years of practice, new findings are identified. The update of this document is necessary to include these new findings.
*X642.1	Recommended Methods for Measurement and Testing of LED Products for Plant Growth and Development
	This revision will be establishing recommendations for: test methods for actively cooled products, the use of portable spectroradiometers to make irradiance and SPD measurements, and far-field modelling using existing data format.
X644	Performance Measures of Electromagnetic Radiation Systems for Plants
	This standard is intended to establish appropriate performance criteria of optical radiation devices designed for horticultural applications and installed systems that use such devices. This standard recommends minimum and advanced criteria (including specific values where appropriate). This standard provides plant spectral response characteristics. This standard also provides methodologies to compare the plant growth and energy performance between alternative devices and installed systems when applied to diverse horticultural operations.
MS-23/6, Application Systems and US TAG for ISO/TC 23/SC 6	
*X327.5	Terminology & Definitions for Application of Crop or Forestry Production & Protection Agents
	Sections 3.22 and 3.23 are titled same but define two different concepts. The examples in 3.23 all happen to be 'median' droplet sizes, but this '0.5' fraction is only one special instance of droplet diameter when defining cumulative distribution. S572 references Dv0.5, etc, but never uses the term Volume Median Diameter. Volume Median Diameter is a critical concept, frequently used as a shorthand for nozzle classification. It should have its own definition rather than being one example within another, miss-titled definition.
MS-23/6/1, Liquid Application	
*X471.1	Procedure for Measuring Sprayer Nozzle Wear Rate
	To align with ISO 5682-1
X665	Crop Protection Equipment – Test methods for the evaluation of targeted spray application systems
	The scope of this work will define performance standard(s) for targeted spray application for row crop boom type sprayer configurations. These performance standard(s) will provide guidelines of plant protection product usage for registrants and regulators, e.g. EPA, when using this technology.
MS-23/6/2, Aviation	
*X641.1	Droplet Size Classification of Aerial Application Nozzles
	Nozzle and pressure settings need to be revised so that this standard harmonizes with the recent updates to S527.3, which significantly altered the boundaries of the coarsest droplet size categories. The focus will be only on adjusting the nozzle tips and pressures for the coarsest categories to bring the boundaries curves into alignment with those established by S527.3.
MS-48, Specialty Crop Engineering	
X664	Direct to Consumption Specialty Crop Equipment Sanitary Design Requirements

	The purpose of this project would be to establish industry consensus sanitary design standards for specialty crop equipment that is used in direct-to-consumer specialty crop production. Direct to consumer is defined as any crop that bypasses any form of kill step and is sold to the consumer in the same form that it was harvested. Specialty Crops is defined in accordance to the USDA definition as appointed by the 2014 Farm Bill with the exception of any horticulture, annual bedding plants, trees, shrubs, or flowers.
MS-49, Crop Production Systems, Machinery, and Logistics	
*X497.8	Agricultural Machinery Management Data
	Update coefficients for some machines in Tables 1-3.
MS-54, Precision Agriculture	
*X579.2	Yield Monitor Field Test Engineering Procedure
	Standard lacks rigor in performing weight accuracy tests. For example: if minimum block length were used to perform weight accuracy tests, a total of about 20 bushels of corn would be harvested with a 12-row head at 200bu/acre. Unload cleanout and scale accuracy should be considered when performing weight accuracy tests. For weight accuracy tests on a combine, the minimum harvest should be somewhere around 1/3 grain tank.
NRES-224 Sediment and Associated Pollutants	
*X422.2	Mapping Symbols and Nomenclature for Erosion and Sediment control Plans for land Disturbing Activities
	Revise nomenclature definitions and update use of different practices.
NRES-23, Drainage Group	
*X260.6	Design and Construction of Subsurface Drainage Systems on Agricultural Lands in Humid Areas
	This revision will update the standard based on recent research in the area, as well as updating the terms used in the standard to align with the newly approved ASABE drainage terms.
*X302.5	Design and Construction of Surface Drainage Systems on Agricultural Lands in Humid Areas
	The scope will have to be determined by a committee. However, based on my assessment and feedback from stakeholders – main objective would be to remove inconsistencies between design process and design guidance given by the standard and those actually being used and suggested by technical service providers. For example: <ul style="list-style-type: none"> • The current version of standard has charts and equations with poor readability and mixed units. • Figure 1 could be much better than what is included in terms of legend, resolution etc. • Some questions/concerns have been identified about Figure 2 and the labels used for each of the curves that need addressed by a committee of experts Other figures refer to NEH which has recently undergone a revision
*X479.2	Design and Operation of Controlled Drainage Systems in Humid Regions
	Update normative references. EP480 and EP481 to be replaced by EP260. Update other aspects of the standard, developed in 2013, to reflect newer concepts and terms. Add “Design” to the title because design is an integral part of the standard.

*X511.1	Drain Restoration After Utility Construction
	<p>This would be determined by committee, however below are the main items suggested. Some are revisions to out-of-date things in the current standard, and some are additions to the standard.</p> <ul style="list-style-type: none"> • Provide guidance for field wetness conditions suitable for construction. • Update Table 2 to current materials • Consider updates and additions to figures 10 & 11, to reflect current construction practices • Addition of pipe bedding and backfill requirements, to protect the drain during construction and for years after. • Include requirement of coordination and/or permitting with drainage district, where applicable.
NRES-244, Irrigation Management	
*X632-2	Precision Agriculture Irrigation Language: Observations and Measurements
	This (X632-2) part of the standard series presents an object model and reference XML serialization schema to represent observations and measurements of relevance to agriculture in general, and irrigation in particular; it is an agriculture-specific implementation of the ISO 19156 Standard. 560 / 680 space limit.
NRES-245, Microirrigation	
*X405.2	Design and Installation of Microirrigation Systems
	This standard needs to be reviewed for consistency/accuracy in definitions, updating current terminology and practice, and updating any standards applicable to the practice.
PAFS-20/4, Bulk Solids Handling and Storage	
X636	Bulk Material Physical Properties
	To consolidate physical properties of bulk materials required for design of storage and handling facilities for bulk materials in one location
X652	Wind Loads on Circular Grain Bins
	Wind loading guidance is needed for structural design of grain bins. Standard will provide wind loads on roof and walls of individual circular grain bins and wind loads on groups of grain bins.
PAFS-40, Facilities and Systems Group	
*X270.6	Design of Ventilation Systems for Poultry and Livestock Shelters
	(1) Update heat and moisture production numbers and references in (current) Table 1; (2) Update the descriptions of ventilation system types for modern livestock production systems; (3) Demonstrate how Table 1 and specie-specific environmental needs influence the design for ventilation system types.
PAFS-403, Milk and Dairy Facilities	
*X444.2	Terminology and Recommendations for Freestall Dairy Housing, Freestall, Feed Bunks, and Feeding Fences
	Review recent North American and Western European research and recommendations for dairy cattle freestalls (cubicles) and feeding areas and modify standard as appropriate.

PRS-701, Physiochemical Properties of Biological Products	
*X241.5	Density, Specific Gravity, and Mass-Moisture Relationships of Grain for Storage
	Data has become dated. Data presented, including figures and tables, needs to be updated.
*X368.5	Compression Test of Food Materials of Convex Shape
	The project aims to revise the ASAE S368.4 DEC2000 (R2022) standard by updating measurement techniques for agricultural products, especially those with complex shapes and viscoelastic properties.
X662	Moisture Relationship Equations and Moisture Based Calculations
	Moisture relationships (or) moisture equations involved in handling agricultural materials along with web-based ready-to-use moisture calculators.
X667-1	Moisture Relationship of Plant-based Agricultural Products - Part 1: Terminology and Formulas
	Provide consistent terminology and the formulas to be applied to various commodities in the subsequent parts to be developed.
X667-2	Moisture Relationship of Plant-based Agricultural Products - Part 2: Data for Major Grains and Oilseeds
	Provide data for corn, soy beans, rice, wheat
PRS-702, Crop and Feed Processing and Storage	
*X248.4	Construction and Rating of Equipment for Drying Farm Crops
	Update based on comments from maintenance reviews, also align with relevant ISO standards.
X657	Measurement and Rating of Hermetic Storage Bags – Specifications of Gas Barrier Liners
	The focus of this standard development project is on specifying the key engineering properties that will be the basis for measuring and rating hermeticity and strength of gas barrier liners.

*Projects to revise existing ASABE standard documents.