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**TITLE:** The Precision Ag Irrigation Leadership project

**AUTHORS (LAST NAME, FIRST NAME):** Adhikari, Diganta<sup>2</sup>; Berne, Dan<sup>3</sup>; Ferreyra, R. Andres<sup>5</sup>; Hillyer, Charles C.<sup>1</sup>; Melvin, Steve<sup>4</sup>; Nef, Bart<sup>6</sup>

**INSTITUTIONS (ALL):**

1. Texas A&M AgriLife, Amarillo, TX, United States.
2. IRROMETER Company, Inc, Riverside, CA, United States.
3. Next Chapter Marketing, Portland, OR, United States.
4. Lindsay, Omaha, NE, United States.
5. Ag Connections, Inc., Murray, KY, United States.
6. Campbell Scientific Inc, Logan, UT, United States.

**CURRENT TECHNICAL COMMUNITY:** Natural Resources & Environmental Systems

**CURRENT SESSION CATEGORY:** Sensors and drones for irrigation management

**ABSTRACT BODY:**

**Abstract Body:** Farming has become data-driven: technology enables previously impossible levels of precision, but also burdens the grower. Data volume and complexity require the grower to spend more time processing, transforming, and understanding their operation. Further, relying on data to manage ever-larger operations amplifies the risks of bad-data-mediated errors. Growers thus need tools than can integrate the data and transform it into useful information, shifting the data management burden away from the grower and onto the software. Building these tools curenly requires knowledge of agricultural operations, as well as integrating with a myriad file formats, APIs, and manufacturer-specific conventions .

Data exchange standards can serve many purposes; two are particularly relevant here. First, standards facilitate broader (i.e., more technologies) and more comprehensive (i.e., greater level of detail and precision) systems integration. This is achieved by reducing development and maintenance costs for data handling systems. Second, standards promote eliable system interoperation: standards-compliant tools are expected to work together; the end user benefits by having confidence that two products from difference sources will work together as expected. The Precision Ag Irrigation Leadership (PAIL) project seeks to propose an open standard for irrigation data exchange. (ASABE Project# X632). This paper explains the proposed standard's core elements. We begin with a description of overall scope and how PAIL fits into the current agriculture enterprise. This is followed by a general description of the different documents defined in the draft standard. The PAIL team conducted a beta test of the draft standard during 2015. Some of the results from that test are presented. All of PAIL's activities were conducted under the auspices of AgGateway, a non-profit consortium that supports the implementation of open standards for agriculture. The paper concludes with a description of AgGateway, PAIL's role in that organization, and how AgGateway supports PAIL's continuing activities.

**KEYWORDS:** irrigation, irrigation technology, precision irrigation, standards, information management.

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