



2023 International Conference on Integrative Precision Agriculture – Local Solutions Through Global Advances

EDDMapS: A platform for data aggregation, collection, and sharing of occurrence and management data

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Abstract

Large amounts of data are needed as a foundation to create models and decision support systems. Ideally, the data has a wide geographic scope with standardized measures over many years. Even if a single data set does not meet these criteria, it is possible to make use of smaller datasets. Unfortunately, this requires a significant amount of time to find data sets, translate them into an accessible format, understand the specifics of each data set to make them interoperable, and receive permission for reuse. In 2005, the Early Detection and Distribution Mapping System (EDDMapS) was launched to aggregate data from existing sources without replacing the system originally responsible for providing the data. It accepts data on any taxonomic group and any commodity or setting as long as the data directly pertains to an organism that may cause damage. The aggregation also involves additional quality control and interpretation so that a single agreed standard can be used to enable interoperability between data providers. As the amount of data increased and visualizations were added, functionality was developed for groups to also collect data directly in the EDDMapS platform. This has led to EDDMapS being the system of record for many efforts that choose to not build their own geographical data system for pest occurrence and management information. EDDMapS has become an aggregation of 7 million organism occurrence and management records from 4,000 data partners and a reporting platform providing an additional 750,000 reports from 37,000 individuals. The scope of the EDDMapS user community is immense including federal, state and local officials in all 50 states as well as private users from every corner of the country. All data has received additional scrutiny from a community of 900 expert verifiers. This process of data curation has led to a more robust and immediately useful data source as the data has become Findable, Accessible, Interoperable, and Reusable (FAIR). More information on EDDMapS and access to the data that has been made publicly available can be found at www.eddmaps.org.

Keywords: data warehouse, FAIR, standardization, distribution mapping