

Metadata Records
Irrigation Innovation Consortium-Supported Project Datasets

Please use a separate sheet for each dataset. Answers are automatically saved.
 Questions? Contact Diane DeJong: diane.de_jong@colostate.edu.

Thank you!

Question	Your answer
Project name	Closing the loop on sustainable plasticulture
Project background	The Irrigation Industry manufactures approximately 250 million lbs. of plastic drip tubes, tapes, and emitter lines in the USA alone. Some of these products will be utilized in fields or landscapes for a long time (10-30 years), while other products, such as thin-mil drip tapes, are only used for one crop growing cycle (4 months). It is estimated that a small percent of these products are recycled. Much of the un-recycled and even "recycled" plastic drip products may end up in landfills or other non-renewable waste streams. We propose to investigate the technical and economic feasibility of using recycled thin-walled single-use drip tape as source material for thick-walled long-life drip tubing.
Dataset name	Lab testing of thick-walled drip tubing manufactured from recycled plastic
Primary author Include first & last name, institution affiliation, and email address.	Charles Hillyer, Center for Irrigation Technology, California State University - Fresno, hillyer@mail.fresnostate.edu
Primary contact The primary contact may be the same or different from the primary author. Include first & last name, institution affiliation, and email address.	Charles Hillyer, Center for Irrigation Technology, California State University - Fresno, hillyer@mail.fresnostate.edu
Dataset description Please provide a brief, clear summary description of the dataset contents. Indicate as applicable: purpose and scope; time period; areas of investigation; and any other special characteristics.	Jain Inc. developed a procedure for processing the raw recycled drip tape into viable source material to produce thick-walled tubing. Jain fabricated recycled resin in sufficient quantity to support the laboratory testing. Critical to the viability of a closed-loop approach, manufacturers need to understand the quality aspects of products made from recycled plastic. This understanding should come from physical testing of the recycled resin. DOW Chemical, in collaboration with the project team, conducted laboratory tests that characterized the physical properties of the recycled resin. The Center for Irrigation Technology conducted a series of performance tests on the thick-walled driplines. In the interest of simplicity and expediency, the tubing was fabricated for on-line (rather than inline) emitters. This decision was justified because a) the emitters that would have been used
Spatial coverage Please be specific as possible about the geographic coverage of your data, and record the information according to defined standards, such as FGDC or the Getty Thesaurus of Geographic Names. You can enter lat/long data, county names, state names, etc.	
Temporal coverage Describe the temporal coverage of your dataset: Start: Time of day, Date, Month, Year Finish: Time of day, Date, Month Year	2023

<p>Re-use limitations Describe known problems or caveats that would limit reuse of the data (e.g., uncertainty, sampling problems, blanks, quality control samples) and/or that future potential users of your dataset should know about. Or indicate "None."</p>	None
<p>Citations Please include full citations and DOIs for articles published based on or related to this dataset. Or indicate "None."</p>	None
<p>Keywords Please add a few appropriate National Agricultural Library keywords: https://agclass.nal.usda.gov/vocabularies/nalt</p>	recycled plastic; drip irrigation; economic feasibility; plasticulture
<p>Tags Please add a few of your own user-defined tags that would be useful to others who might use your dataset in the future.</p>	drip tube; drip tape; recycled resin;
<p>Acronyms & abbreviations Please define any acronyms, site abbreviations, or other project specific designations used in your dataset. Or indicate "none."</p>	CIT: Center for Irrigation Technology
<p>Other dataset storage location Has this dataset already been uploaded elsewhere? Yes or No Reasons may include a requirement as part of publishing a paper or storing data on GitHub or other locations to make accessible to others. If yes, please provide the link or other information to explain where the dataset is located and where or how it can be accessed.</p>	No