**P-TRAP** software (for Panicle TRAits Phenotyping), is a free and open source application for high-throughput measurements of panicle architecture and seed-related traits.

**P-TRAP: a Panicle Trait Phenotyping tool**
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**Description**

P-TRAP software (for Panicle TRAits Phenotyping), is a free and new open source software that automatically recognizes, from numeric images, the structure of a panicle and the seeds on the panicle. The software processes and quantifies several traits related to the structures of the panicles, detects and counts the grains, and measures their shape parameters. P-TRAP offers both efficient results and friendly environment for users to perform their experiments. Comparing to the data obtained by manual processing, P-TRAP produces reliable results in much lesser time. Furthermore, manual processing is not repeatable because dry panicles are vulnerable to damage. The software is very useful, practical and collects much more data than human operators.  The software is written in the Java programming language to be supported by different platforms (A user-friendly Graphical User Interface (GUI) is developed on top of Netbeans Platform 7.1). The application offers three main tools: a panicle structure analysis tool, a spikelet/grain counting tool, and a seed shape analysis tool. Results are then reported in the XML and CSV file formats.

**Operating system** : linux, windows, mac