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Plant Physiology and TAIR Partnership Will Provide Genetic Information to Public Database

A unique partnership has been formed between *Plant Physiology* and The Arabidopsis Information Resource (TAIR) to create an efficient mechanism that will ensure that genetic and molecular data on Arabidopsis published in the Journal are reliably captured in TAIR's public database. This collaboration—the first of its kind—provides authors with the ability to submit manuscripts to the Journal for publication and gene information to the TAIR database at the same time.

*Plant Physiology* (<http://www.plantphysiol.org/>) is an international plant science journal established in 1926. It publishes articles on broad aspects of plant biology including physiology, biochemistry, cellular and molecular biology, genetics, biophysics, and environmental biology of plants. Although *Plant Physiology* publishes papers on a wide range of plants, it publishes a very high number of papers that describe the use of the model organism *Arabidopsis thaliana* to decipher how plants function. These Arabidopsis articles are the foundation of the connection with TAIR.

TAIR (<http://www.arabidopsis.org/>) was created in 1999. Its mission is to collect information and maintain a database of genetic and molecular biology data for *Arabidopsis thaliana*, a widely used model plant. Since its inception, TAIR has grown and now includes the complete genome sequence along with gene structure, gene product information, metabolism, gene expression, DNA and seed stocks, genome maps, genetic and physical markers, and publications, as well as information about the Arabidopsis research community.

For some time now, TAIR has been curating data from the published literature, adding new or additional information relating to Arabidopsis genetics and molecular biology data to the database. Curation is a labor-intensive process that makes certain that the information included in the database is of high quality and as accurate as possible. TAIR's goal is to achieve the widest possible coverage of annotations of the genome. However, due to the high number of Arabidopsis-related publications and the relatively small number of TAIR curators, keeping on top of the current literature is difficult. In part, because of the high volume of Arabidopsis papers that *Plant Physiology* publishes, in 2006–2007 only about 25% (50/200) of the Arabidopsis papers in the Journal were captured in TAIR.

In May 2007 Sue Rhee, Principal Investigator; Eva Huala, Director of TAIR; and

*Plant Physiology* Editor-in-Chief Don Ort conceived the idea of *Plant Physiology* partnering with TAIR to increase the curation of Arabidopsis gene function data from the Journal to as close to 100% as possible. The concept behind this is simple: once a manuscript has been accepted, the author submits all the relevant gene information to *Plant Physiology*, which will then submit the information in bulk to TAIR for vetting and addition to the database. A link to a web-based interface will be included in the manuscript provisional acceptance letter; this is anticipated to make it even easier for authors to submit their Arabidopsis gene function data to TAIR.

All parties benefit from this interaction. Since TAIR shares its information with larger databases such as the National Center for Biotechnology Information (NCBI) and the Gene Ontology (GO), both *Plant Physiology* and its authors gain greater visibility in the research community by having their data available from all these resources. TAIR gains by sharing the load of capturing all this valuable data with the authors themselves. The biggest beneficiary of this partnership is the entire plant science community through access to increased gene annotation information.

Both TAIR and *Plant Physiology* are enthusiastic about this project and think it will be a successful partnership that other biological databases and journals can emulate to increase the flow of information and data dissemination within the research community.