

Online Farm Trials (OFT) – A national grains research information resource

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Key messages

Online Farm Trials (OFT) is a website (www.farmtrials.com.au) that provides access to nationwide on-farm grains research trials via online applications that allow users to view, analyse and export grains research information. Collation of on-farm trial research information in an online database will allow historical, geographic and crop-specific comparisons to be made. Further expansion of the OFT database will improve access to previous and current research findings and improve R&DE opportunities among grain growers and researchers.

Aims

The principle objective of the OFT project is to help improve the productivity and sustainability of farming enterprises by improving access to on-farm trial research information.

Methods

Supported by the Grains Research and Development Corporation (GRDC) and developed at the Centre for eResearch and Digital Innovation (CeRDI) at Federation University Australia, the Online Farm Trials (OFT) project uses innovative technology to improve access to on-farm trial research in the Australian grains industry. The project is being led by a team of senior scientists, researchers and programmers with advice from specialist agricultural experts. The OFT project has been developed to assist easy access to on-farm trials data from all areas in Australia from a single web address (see Figure 1).

OFT Online Farm Trials
Knowledge • Technology • Smarter Farming

About Trial Explorer Report Library Support

This website is part of the GRDC group of online tools. [Learn more >](#)

GRDC Grains Research & Development Corporation
Your GRDC working with you

Search this website

Bringing knowledge and technology together for smarter farming

Online Farm Trials is an exciting initiative that brings nationwide grains research information directly to the grower, agronomist, researcher and the wider grain industry through innovative online technology.

Get started
[Learn more](#)

Trial Explorer
Use the Trial Explorer to search for trial projects in a particular region or on a topic of interest. The Trial Explorer search filters provide targeted grain research information quickly.
Trial Explorer contains research findings and associated information from cropping trials conducted across Australia.
[Use the Trial Explorer >](#)

Report Library
Search the Report Library for a wide range of individual trial reports, project summary reports and other relevant trial research documents produced and supplied by Online Farm Trials contributors.
Individual trial reports can also be accessed in the trial project information via the Trial Explorer.
[Explore the Report Library >](#)

Submit research
Find more information about submitting and publishing trial research on the Trial Explorer and Report Library.
Details regarding the information transfer process, technical support available and exclusive member access to the most recent trial projects.
[Submit trial info >](#)

Figure 1: The Online Farm Trials website landing page

The project commenced in late 2013, when a pilot version of the OFT website portal was established to help guide the development of the OFT research tools and resources. This included participation from three grower groups – Liebe Group (WA), Northern Grower Alliance (Qld) and Southern Farming Systems (Vic) – as well as consultation with GRDC staff, GRDC panel chairs and research organisations. During the pilot project, the three participating grower groups provided historical trial data in various formats to allow the development of the central trial database and the online OFT research applications. The International Plant Nutrition Institute and the Birchip Cropping Group also provided sample data for testing and developing the research applications.

The goal of the OFT information transfer process is to provide a range of information transfer options that provides a flexible process for submitting trial information to the OFT research applications. The OFT project is based on sharing principles:

- that the individual, group or research organisation supplying on-farm trial research remains the owner of the information supplied and retains all intellectual property rights;
- that data access rights and processes are entirely governed by the researcher or organisation;
- that the source and ownership of all data will be fully acknowledged and attributed; and
- that the researcher maintains full control of trial data and information on the OFT database.

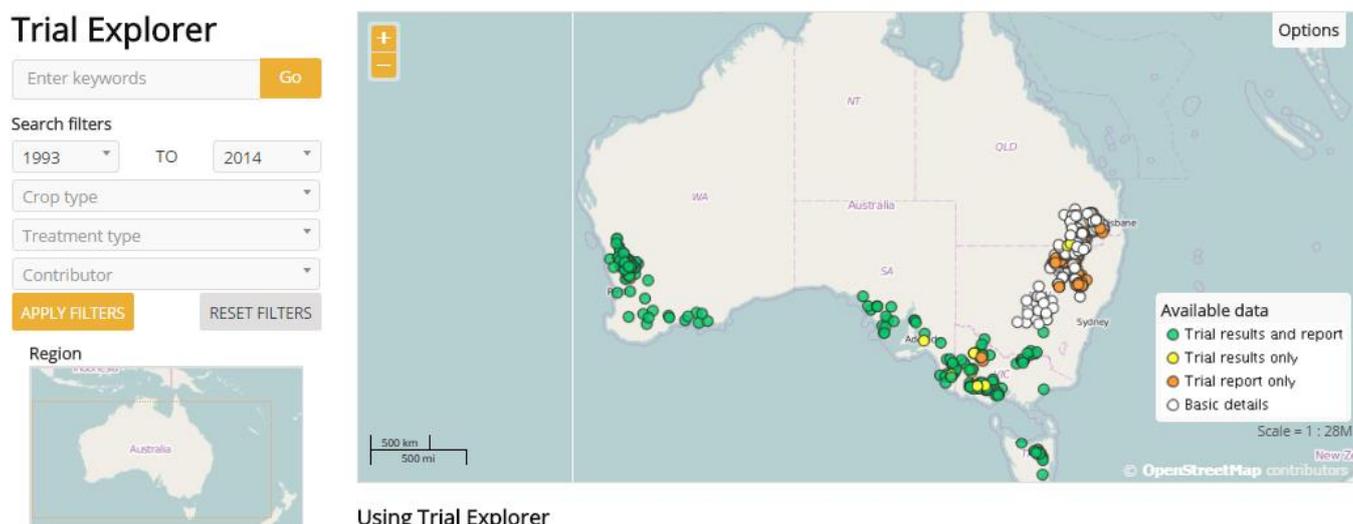
Data entry of historical trial projects is being undertaken by staff of the grower groups using standardised templates and support from OFT team members. A number of on-site demonstrations of the portal and the data entry process have been conducted since the site's inception, and extensive data entry user guides are available on the website.

The OFT site was rolled out nationally in September 2014 and in September 2015, a new version of the website portal was launched to incorporate new features and an updated selection of input metrics for data entry. A screen shot of the OFT website landing page is given in Figure 1.

How the OFT website works: guide for users

The OFT website (www.farmtrials.com.au) has been developed with two main components: the 'Trial Explorer' and the 'Report Library'. The Trial Explorer (see Figure 2) is the flagship research application of OFT as it allows trials to be filtered either by map or by search terms through a variety of criteria including year, crop type, treatment type and contributor.

After initial filtering by these groups, search results can be further refined by more specific treatment types, including various types of fertiliser, fungicide, grazing, growth regulator, herbicide, inoculant, irrigation, pesticide, sowing, soil, sowing, stubble and variety treatments.



Using Trial Explorer

Trial Explorer contains trial projects from researchers and organisations across Australia. Use the map, keyword search and/or filters to search for trial projects of interest. Your search results will be displayed underneath the map after clicking "Go" or "Apply Filters". More detailed information is available by clicking on the trial project name.

Figure 2: The OFT Trial Explorer with searchable functions: keywords, filters and map searches

Resultant trials can be viewed in list form, then each trial can be opened individually to access details such as methods and results. Trials are also linked to the original research report and to GRDC Final Reports wherever possible. These can be viewed online or downloaded for later reference or printing of hardcopies. Trial results can be viewed graphically, with different graphs produced for each specific treatment included in the trial. Further, trial site co-ordinates (latitude and longitude) and trial date are used to link each entry to site-specific climate data (rainfall and temperature maximum and minimum data) provided from the Bureau of Meteorology (BOM).

An embeddable version of the Trial Explorer research application has been designed for integration with websites managed by research organisations. This development has been undertaken to make the Trial Explorer available to be embedded into the website of research organisations or other grains industry stakeholders. With the ability to change the colour scheme to match website design, this version of the Trial Explorer will allow researchers, growers and other users to access the Trial Explorer in a familiar web environment with other relevant online resources.

Results

To date, there are 2798 trial reports published on the OFT site, data having come from 12 grower groups from across Australia. There are a further 11 grower groups being supported during the data entry phase, with the expectation that the number of trials published on the website will continually increase into the next year of operation.

As well as coming from a variety of source grower groups, published trial reports cover a wide range of crops and treatment types. For example, a search on wheat produced 982 trials, barley produced 338 trials and canola produced 290 trials. A total of 244 of the published trials are from the last two years (i.e. 2013 and 2014); and the earliest trials available being from 1993. Filtering by fertiliser treatment type shows there are 324 trials reporting fertiliser trials; filtering by inoculant shows there are currently 96 trials reporting on investigations on inoculants.

Submitting and publishing data

The OFT website contains information on how to become involved in the project and how to submit research, and new grower groups are openly welcomed to get involved. Greater involvement is noted as paramount for the long-term uptake of the trial data and success of OFT. The usual process for submitting and publishing trials on OFT is initiated by submission of an expression of interest. Once the expression of interest has been received, a member of the OFT project team makes contact with the submitter to provide further information and assist with establishing a project agreement for accessing start up support and technical assistance throughout the collaboration. The project agreement provides a background to the project, objectives, estimated timelines, participant expectations and information on project support and funding assistance. The agreement also outlines data sharing terms. Once the project agreement has been established, technical and funding support can be provided to assist with transferring trial information to the OFT database.

Submitting trial research information to the OFT database follows a three step process:

1. Provide copies of individual trial reports and/or research report documents to the OFT project team that correspond to the trial projects being submitted to the OFT database.
2. Enter the individual trial project details (e.g. trial name, date, authors, location, type of trial, funding sources) into the provided data entry spreadsheet.
3. Enter summarised trial project result data for each trial project into the provided data entry spreadsheet.

Following supply of the trial reports and information, the OFT project team import the trial projects into the OFT database. After quality control checks, the trial projects and trial reports are published on the Trial Explorer and Report Library research applications (see below for further detail on how the OFT website works). Researchers are able to set trial information access protocols that complement their existing policies (e.g. member only access to recently completed trial research). In this way, researchers retain all intellectual property rights and manage their own data, allowing them to remove or edit any trial information hosted on the OFT database. The expected flow of information around OFT is shown in diagrammatic form in Figure 3.

Technical support is available from the OFT project team throughout the data supply and publishing process. It is planned that in the future, researchers will have full control of trial data and information on the OFT database through an online administration centre. It is envisaged that future development of the site will allow the data transaction process to shift from the present 'user-assisted' mode to a 'self-managed' system in which up-to-date trial information can be uploaded quickly and easily through an administration login.

Impact research study

Staff at CeRDI are involved in conducting a research study into the impact of the website on decision making, practice change, farm development and environmental management processes, enterprise enhancement and in issues of intergenerational change.

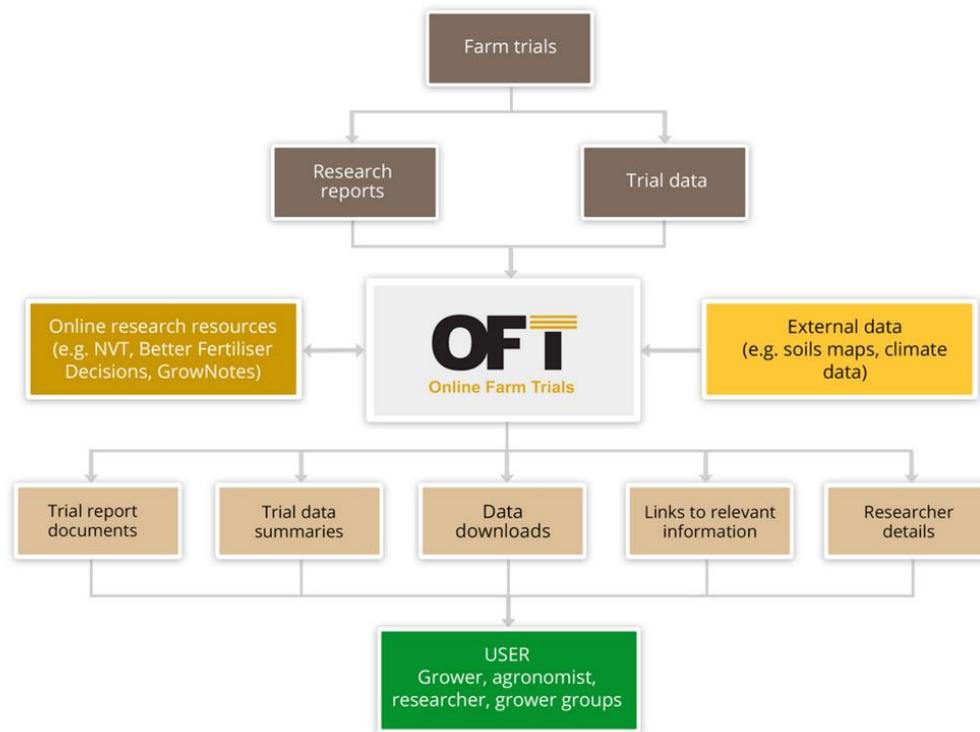


Figure 3: Flow diagram of information in the OFT project

As part of this study, a survey has been developed to target on-line users to enable collection of data on user feedback. This information will be used to further define and direct any required changes to enhance usability and impact.

Conclusion

The development and release of the OFT website provides an exciting new way to make findings and discover information from cropping trials conducted across Australia. The portal includes a number of key features:

- an interactive and queryable map of trial sites with selectable layers of relevant information such as agroecological zones and average rainfall;
- keyword search;
- advanced search filters including treatment type, crop type and location;
- search results with graphical display of measured results such as yield data and disease scores;
- integration of rainfall and temperature observations for trial sites;
- original trial report documents linked to each trial project;
- trial project details including methodology, outcomes and contact details;
- links to other relevant information sources (e.g. NVT, GrowNotes); and
- export/download of trial summary data.

It is hoped that future use and increased uptake of on-farm trial research published on OFT will provide grain growers, agronomists and researchers with an innovative, easily accessible source of data from trials conducted across Australia.

Key words

Grain, grower groups, research, on-farm trials, web applications.

Acknowledgments

This project is funded by the GRDC. Thank you to the grower groups, researchers and advisors who have given their time to be involved in the pilot program and the national rollout and to consultants who provided their input into the design of this project.

GRDC Project Number: UB0003