



ON-FARM RESEARCH

THE 4R WHOLE SYSTEM MANAGEMENT APPROACH requires finding the right nutrient sources, rates, timing and method of application for your individual farm. An on-farm research project can help to evaluate new practices, allowing you to identify site-specific management strategies that provide the greatest benefits to your operation.

HOW TO GET STARTED

On-farm trials offer an opportunity to gain first-hand experience in evaluating a new practice or technology for your farm. You can see how the practice fits into your overall management strategy, and how it performs compared to current management given your specific field conditions. Incorporating statistical analysis offers confidence that an observed difference between two strategies is not just due to chance.

Planning and implementing a successful trial will involve a considerable time investment, from setting a clear objective, to collecting and analyzing the data. There may also be additional expenses for soil tests or tissue analyses above your normal production costs.

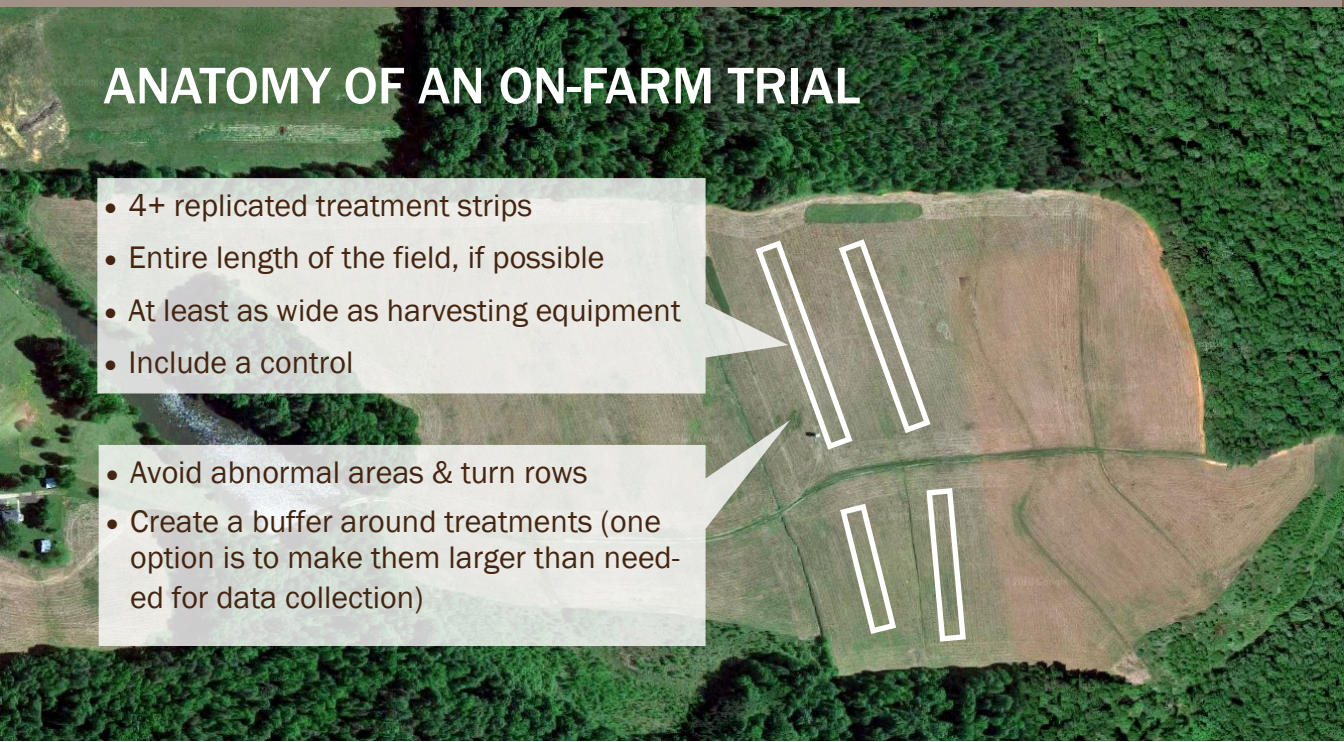
Technical assistance– Your local Cooperative Extension, SARE coordinator or crop advisor may be able to offer insight on relevant research, help design a field trial on your farm and assist with statistical analysis of your results.

Financial assistance– SARE offers grants for on-farm research projects, and NRCS offers funding to evaluate adaptive management strategies for cover crops, nutrient management or tillage practices. Other sources of funding may be available through private agribusiness and local nonprofits supporting the adoption of new practices.

ANATOMY OF AN ON-FARM TRIAL

- 4+ replicated treatment strips
- Entire length of the field, if possible
- At least as wide as harvesting equipment
- Include a control

- Avoid abnormal areas & turn rows
- Create a buffer around treatments (one option is to make them larger than needed for data collection)



KEYS TO SUCCESS

SIMPLICITY- Make sure that your objective for the project is clear and that you are only looking at one variable at a time.

CONSISTENCY- Manage all of your plots exactly the same, except for the research treatments. Use the same variety, seed population, planting date, etc. Make sure all equipment is set correctly before planting or spraying.

REPLICATION- Four or more replications is ideal. If data from one of the plots is unusable, you still have three plots to base conclusions on. Avoid abnormal areas in the field. Keep the data separate from different plots- don't average them together.

ACCURACY- Keep good records- don't depend on memory to recall details at the end of the season! Know how you will collect data and handle samples in advance, and make sure that your equipment is calibrated.



FUNDING OPPORTUNITIES

NRCS ENVIRONMENTAL QUALITY INCENTIVE PROGRAM (EQIP)

- Adaptive management components are available to assist landowners to conduct on-farm trials for Residue and Tillage Management, Cover Crop and Nutrient Management practices. Visit your local NRCS Field Office for details.

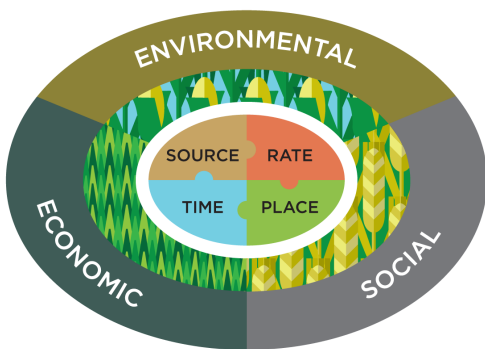
SUSTAINABLE AGRICULTURE RESEARCH AND EDUCATION (SARE) GRANTS:

- **Farmer Grant-** For commercial farmers who want to test a new idea using a field trial, on-farm demonstration, or other technique.
- **Partnership Grant-** For agricultural professionals who want to conduct on-farm research, demonstrations, research, and other projects with farmers as active cooperators.

Visit nesare.org/Grants for more information.

FURTHER READING

- **HOW TO CONDUCT RESEARCH ON YOUR FARM OR RANCH-** SARE Technical Bulletin outlining the process to plan and implement a trial, tips and examples. Available online at sare.org
- **GUIDE TO ON-FARM REPLICATED STRIP TRIALS,** includes info on types of trials, collecting and using data. Available from the Iowa Soybean Association at www.iasoybeans.com/upl/downloads/library/guide-to-replicated-strip-trials.pdf
- **PRACTICAL FARMERS OF IOWA-** Many examples of simple research protocols: www.practicalfarmers.org/



THE DELAWARE MARYLAND 4R ALLIANCE (DM4RA) is a collaboration between agribusinesses, government agencies, conservation groups and scientists working together to ensure that every nutrient application on Delmarva is consistent with the 4Rs– the Right Nutrient Source, applied at the Right Rate, at the Right Time, in the Right Place.

Founded by The Nature Conservancy and the Delaware-Maryland Agribusiness Association, we support the increased implementation of 4R practices, to benefit the economic, environmental and social well-being of our region and our farmers.

CONTACT: Keiller Kyle, Agricultural Specialist
(315) 730-7454, keiller.kyle@tnc.org

WWW.4RMIDATLANTIC.COM