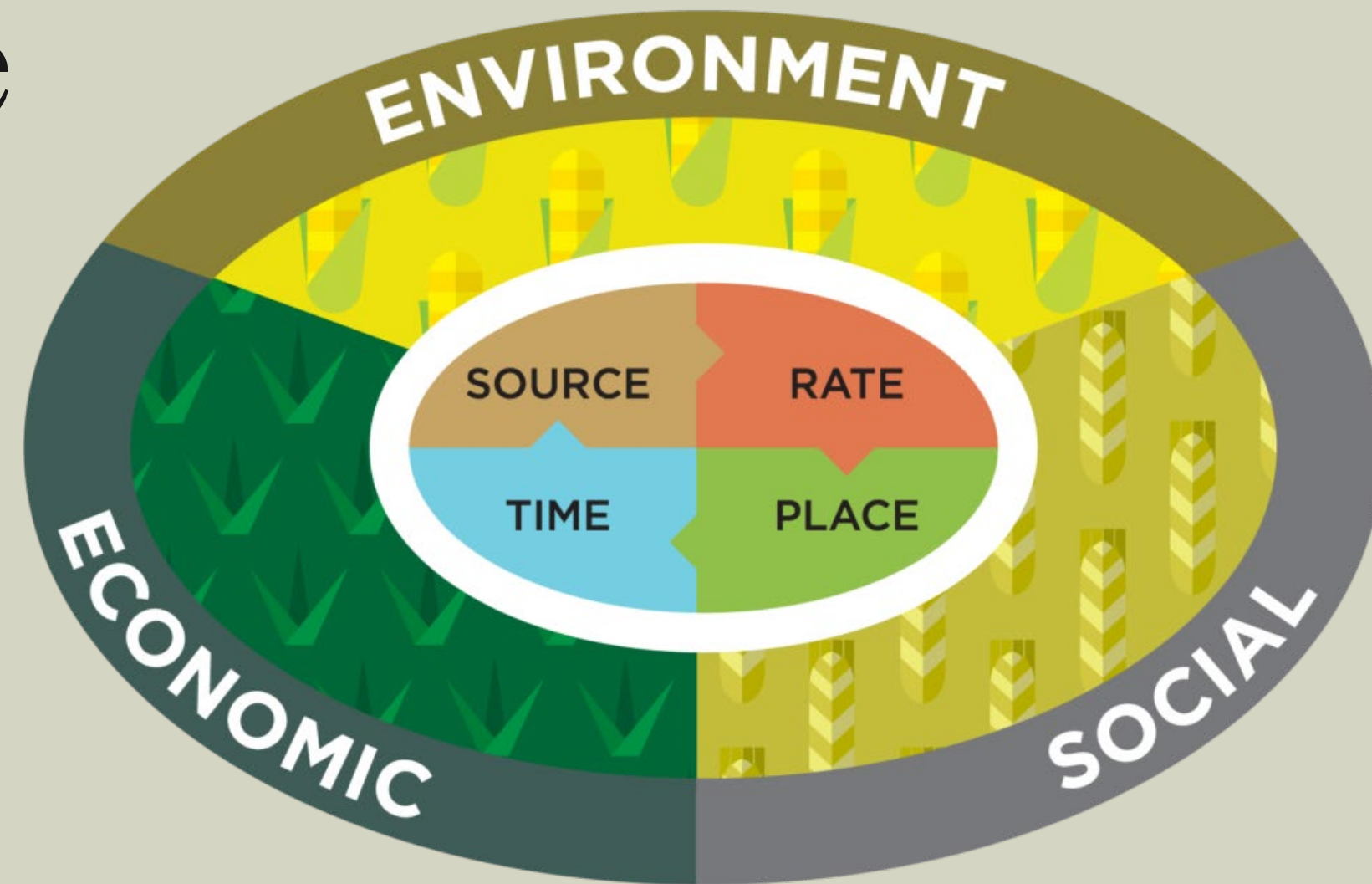


Farm Advisor Voluntary Nutrient Stewardship Certification Program

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The Nature Conservancy
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What is the Science

- Beginning, Intermediate & Advanced 4Rs of nutrient stewardship
- 4Rs must be combined with conservation practices such as cover crops, reduced tillage, incorporating nutrients, buffer strips, blind inlets, and wetlands
- Farmers must believe the practice will be effective



www.nutrientstewardship.org
<https://nutrientstewardship.org/research>

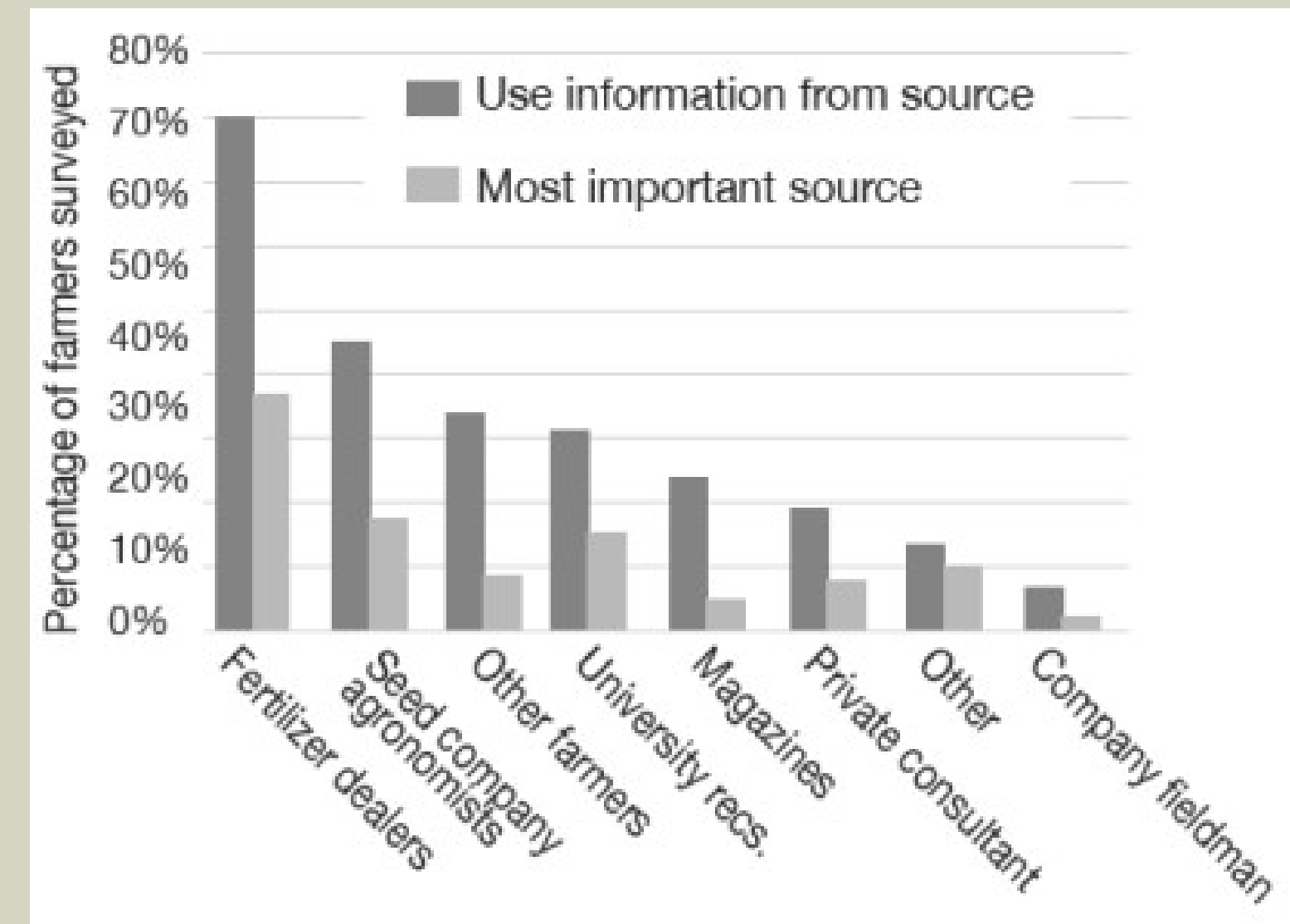
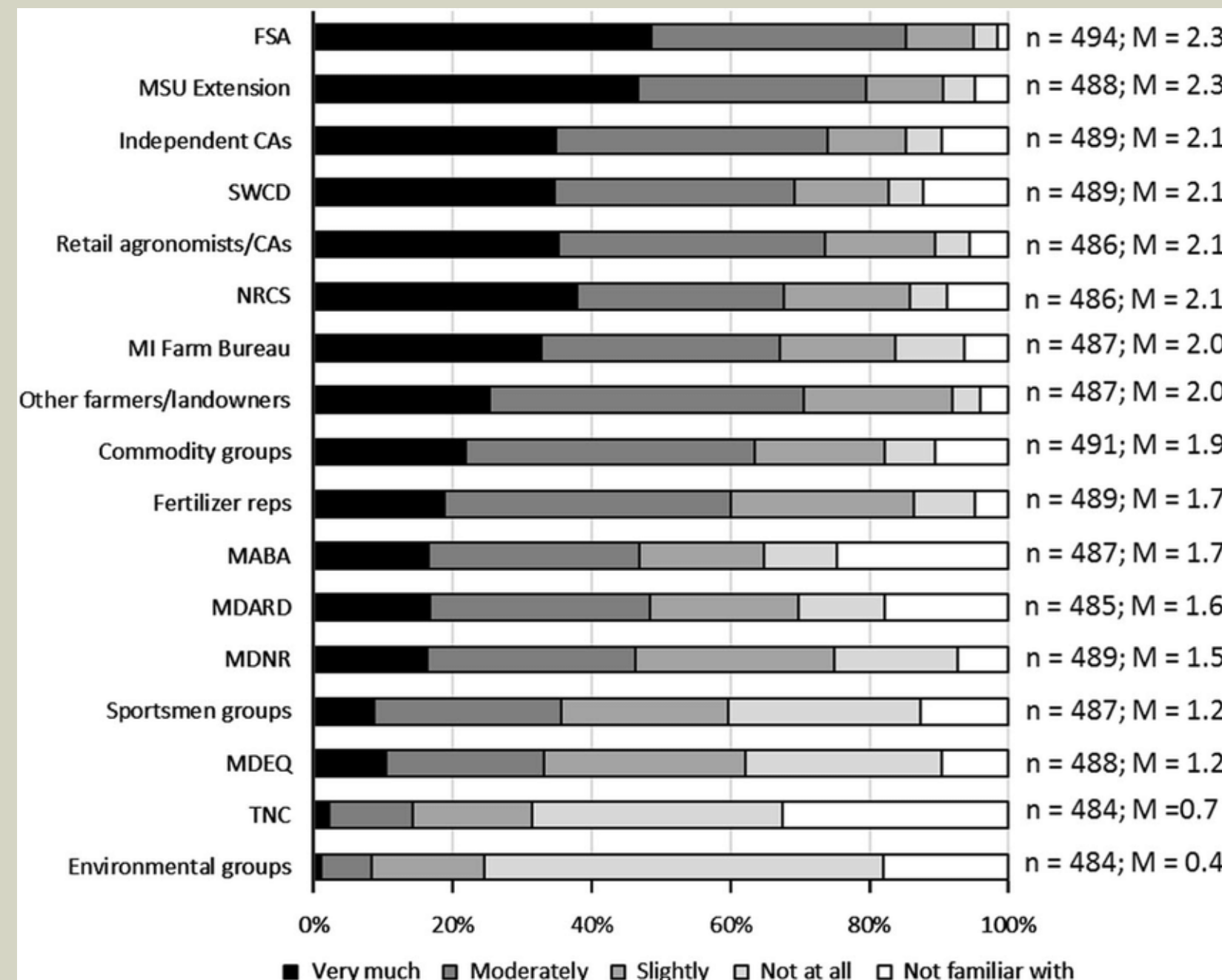
U.S. Department of Agriculture, Natural Resources Conservation Service **Effects of Conservation Practice Adoption on Cultivated Cropland Acres in Western Lake Erie Basin, 2003–06 and 2012** (2016)

K.W. King, M.R. Williams, N.R. Fausey **Contributions of systematic tile drainage to watershed-scale phosphorus transport** J. Environ. Qual., (2015) 44:486-494

R.S. Wilson, D.A. Schlea, C.M.W. Boles, T.M. Redder **Using models of farmer behavior to inform eutrophication policy in the Great Lakes** Water Research, 1 August 2018, 139:38-46

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Farmers Trust Crop Advisers



Eanes, Frances R. et al, **Midwestern US Farmers Perceive Crop Advisers as Conduits of Information on Agricultural Conservation Practices** (2017) *Environmental Management* 60:974–988.

D. Stuart, R.L. Schewe, M. McDermott, **Reducing nitrogen fertilizer application as a climate change mitigation strategy: Understanding farmer decision-making and potential barriers to change in the US** (2014) *Land Use Policy*, 36:210-218.

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Why Certification

- Prove implementation
- Consistently agree on the science regardless of geography
- Global standard
- New Geography:
 - Initiate Nutrient Stewardship Council & Technical Committee
 - Agricultural Business, including 1 active grower (5)
 - Government (2)
 - Environmental Non-governmental Organizations (2)
 - Universities / Researchers (2)
 - Review science
 - Develop geography specific standards
 - Approval of standards by Global 4R Certification Council
 - Audit nutrient service providers annually
 - Review standard annually



www.4RCertified.org

4R Certification Standards

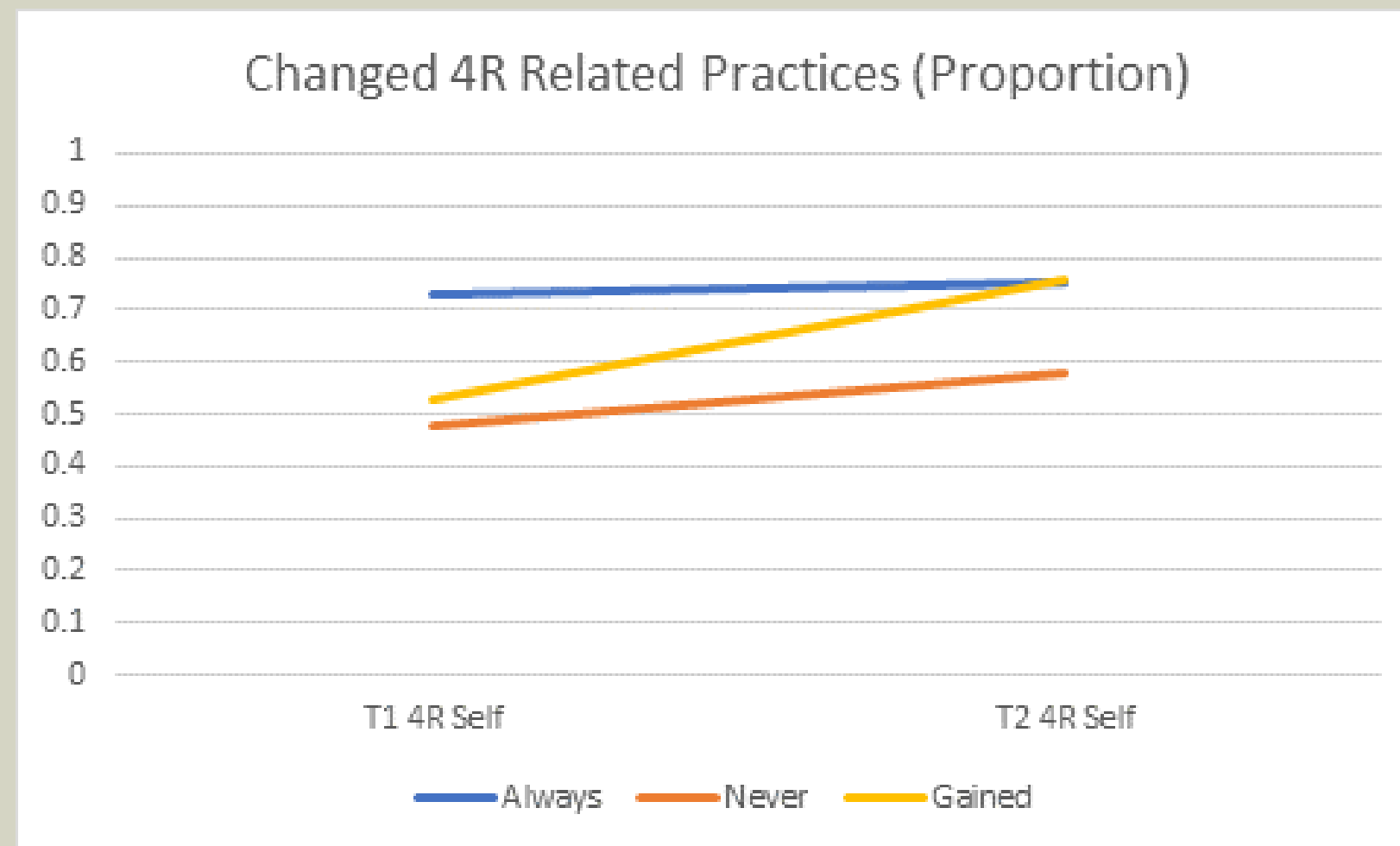
Ohio Standard 16:

- Broadcast applications of phosphates without immediate incorporation are neither made nor recommended unless the NOAA forecast indicates less than a 50% chance of a rainfall event involving more than an inch of rain beginning in the next 12 hours.

Ohio Standard 18:

- Phosphorus and nitrogen applications on frozen or snow-covered ground are neither made by nutrient service provider nor recommended to be made by customers.

Impacts of 4R Certification



Information from the right source: Evaluating the 4R Nutrient Stewardship Certification Walpole, Hugh D. & Wilson, Robyn, S. **Information from the right source: Evaluating the 4R Nutrient Stewardship Certification Program.** Informal Report. 2020.



4R Certification Adoption Rate

Getting Started Box Simple Online Co... http--wrc.umn.edu-ra... Impacts of Human Be... NOAA News Releases TNC Email Western Lake Erie Basi...


proven best practices through the 4Rs, which refers to using the Right Source of Nutrients at the Right Rate and Right Time in the Right Place.

This approach provides a science-based framework for plant nutrition management and sustained crop production, while considering specific individual farms' needs. With roots in the Western Lake Erie Basin, the program has expanded internationally, adopted by states in the U.S. and Canadian provinces.

Want the 4R Program in your geography?

Contact Lara Moody, The Fertilizer Institute, at lmoody@tfi.org for more information on United States involvement or general information.

Contact McKenzie Smith, Fertilizer Canada, at msmith@fertilizercanada.ca for more information on Canadian involvement.



- Over 80 4R Certified Providers
- Nearly *4 Million Acres* serviced by 4R Certified Nutrient Service Providers
- Certification waning and waxing
 - Annual cost and audit
 - Continued benefit to nutrient service provider